

















# M.A. Mustrangi

## 1992-1994

### BRAZIL

#### Catalogue # 1-496

- 1992 Fazenda Intervalles, Capão Bonito - SP  
Ilha de São Sebastião - SP
- 1993 Ubatuba - SP  
Estação Biológica Boracéia - SP  
Sítio Até Que Enfim - SP  
Parque Estadual de Ilhabela - SP  
Parque Nac. do Itatiaia, Penedo, Itatiaia - RJ  
Ibicuí, Município de Mangaratiba - RJ  
Estação Biol. Santa Lúcia, Santa Tereza - ES  
Aracruz Celulose Co., Santa Cruz, Aracruz - ES  
Fazenda Santa Terezinha, Linhares - ES  
Estação Biol. de Caratinga, Caratinga - MG  
Parque Estadual de Ibitipoca, Lima Duarte - MG  
Fazenda Santa Carlota - SP  
Fazenda Santa Capricórnio - SP  
Serra do Japi, Jundáí - SP  
Estação Biol. Boracéia, Salesópolis - SP  
Fazenda Guaricana, Guratuba, Morreltes - P  
Refúgio Bela Vista, Foz do Igauçu - P  
Base Saibadela, Faz.Intervalles, Sete Barras - SP
- 1994 Fazenda Intervalles, Capão Bonito - SP  
Estação Biológica de Boracéia - SP  
Fazenda São José da Serra, Sumidouro - RJ

#### Journal



M.A. MURPHY

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Mustanski, Meika. A. 1992

catalog ①

Fazenda Intervalos - SP, Brazil

Fazenda Intervalos, 24°20'S, 48°25'W, Capão Bonito, São Paulo State, Brazil, 700m.

18 July

at home:

Oryzomys (escaped)

19 July

Carmo Acima Trail:

+part. skel. MAM 48	♂ <sup>gen. nov. sp. nov.</sup> <del>Rhipidomys</del> <u>mastacalis</u>	+tissue in alcohol	310-185-33-18 = 62g
+part. skel. MAM 29	♂ <u>Gracilinanus microtarsus</u>	+tissue in alcohol	240-150-20-20 = 19g
+part. skel. MAM 43	♂ <u>Micoureus cinereus</u>	+tissue in alcohol	314-223-29-30 = 89g
+part. skel. MAM 1	♂ <u>Proechimys iheringi</u>	+tissue in alcohol	320-160-42-29 = 170g
alcohol MAM 2	♀ <u>Marmosops incanus</u>	+tissue in alcohol	250-145-18-20 = 22g
+part. skel. MAM 3	♀ <u>Oryzomys</u> <del>intermedius</del> <u>intermedius</u>	+tissue in alcohol	268-131-36-23 = 76g

20 July

at home:

+part. skel. MAM 23	♂ <u>Akodon</u> cf <u>cursor</u>	+tissue in alcohol	190-92-26-18 = 31g
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Carmo Acima Trail:

alcohol MAM 4	♂ <u>Delomys dorsalis dorsalis</u>	+tissue in alcohol	265-146-31-22 = 48g
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Figueira Trail:

alcohol MAM 6	♀ <u>Gracilinanus microtarsus</u>	+tissue in alcohol	218-135-11-19 = 14g
alcohol MAM 5	♀ <u>Marmosops incanus</u>	+tissue in alcohol	245-145-18-23 = 23g
+part. skel. MAM 37	♂ <sup>gen. nov. sp. nov.</sup> <del>Rhipidomys</del> <u>mastacalis</u>	+tissue in alcohol	tail separate from skin 300-175-30-19 = 62g
+part. skel. MAM 27	♂ <u>Micoureus cinereus</u>	+tissue in alcohol	tail broken in trap HB 140-foot 27-ear 26 = 59g



THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME  
BY  
JOHN HUTCHINGS  
OF THE BOSTON BAR  
IN TWO VOLUMES  
VOL. I.  
BOSTON: PUBLISHED BY  
J. B. ALLEN, 1824.



## Fazenda Intervalles - SP, Brazil

21 July

## Carmo Acima Trail:

Didelphis (released)

+part skel  
MAM 25 ♀ Marmosops incanus +tissue in alcohol 250-153-19-18<sup>9</sup> = 21g

♀ ~~Rhipidomys~~ (not included) tail broken  
HB 154 - foot 25 - ear 19

+part skel  
MAM 28 ♂ Micoureus cinereus +whole liver in alcohol (w/nematodes) 468-225-28-26 = 80g

+part skel  
MAM 9 ♂ Oryzomys <sup>cf</sup> ~~capito~~ intermedius +tissue in alcohol 288-155-38-24 = 70g

+part skel  
MAM 22 ♂ ~~Oecomys~~ Wilfredomys pictipes <sup>es</sup> +tissue in alcohol 210-121-22-16 = 25g

MAM 50 ♀ Micoureus cinereus (kept alive)

## Figueira Trail:

~~Oecomys~~ (escaped)

skel only  
MAM 80 ♂ Gracilinanus microtarsus 242-150-15-20 = 19g

+part skel  
MAM 14 ♀ Oryzomys ratticeps +tissue in alcohol 525-216-35-23 = 91g

+part skel  
MAM 8 ♀ Rhipidomys <sup>3embryos (~10mm each)</sup> ~~mastacalis~~ mastacalis +tissue in alcohol 325-176-28-20 = 57g  
gen. nov. sp. nov.

MAM 51 ♂ Micoureus (escaped)

+part skel  
MAM 13 ♀ Rhipidomys <sup>gen. nov. sp. nov.</sup> ~~mastacalis~~ mastacalis +tissue in alcohol 283-162-29-18 = 45g

+part skel  
MAM 24 ♂ Akodon cf cursor +tissue in alcohol 220-100-30-20 = 31g

+part skel  
MAM 7 ♂ Rhipidomys <sup>gen. nov. sp. nov.</sup> ~~mastacalis~~ mastacalis +tissue in alcohol 302-168-30-18 = 60g  
tail separate from skin

22 July

## Carmo Acima Trail:

+part skel  
MAM 10 ♂ Sciurus aestuans +tissue in alcohol 430-245-49-25 = 180g

+part skel  
MAM 15 ♀ Rhipidomys ~~mastacalis~~ mastacalis +tissue in alcohol 305-170-30-20 = 58g

+part skel  
MAM 16 ♀ Rhipidomys ~~mastacalis~~ mastacalis +tissue in alcohol 290-165-30-20 = 50g

+part skel  
MAM 11 ♂ Proechimys iheringi +tissue in alcohol 310-151-43-23 = 140g  
skin w/o tail

+part skel  
MAM 17 ♂ Rhipidomys ~~mastacalis~~ mastacalis +tissue in alcohol 4B140-foot 30. ear 20 = 89g







Fazenda Interval - SP, Brazil

+part skel  
MAM 21

♀ Oligoryzomys eliurus

+tissue in alcohol 200-120-23-15=18g

+part skel  
MAM 12

♂ Oryzomys ~~capito~~ <sup>intermedius</sup>

+  
+tissue in alcohol 275-160-35-20=54g

Figueira Trail:

+part skel  
MAM 41

♂ Philander opossum

+tissue in alcohol 530-285-40-35=250g

+part skel  
MAM 32

♀ Marmosops incanus

+tissue in alcohol last tail vertebrae in skin  
277-167-18-21=25g

~~Decomys~~ (escaped)

+part skel  
MAM 35

♂ Akodon cf cursor

186-91-27-19=29g

+part skel  
MAM 26

♂ Gracilinanus microtarsus

+tissue in alcohol 247-156-16-19=20g

+part skel  
MAM 38

♂ Gracilinanus microtarsus

+tissue in alcohol 248-153-16-20=25g

23 July

Didelphis (released)

+part skel.  
MAM 40

♀ ~~Decomys~~ Wilfredomys pictipes

+tissue in alcohol 183-106-21-15=18g

+part skel  
MAM 42

♀ Rhipidomys mastacalis

+tissue in alcohol 275-157-30-18=45g

+part skel  
MAM 46

♀ Micoureus cinereus

+tissue in alcohol last tail vertebrae in skin  
243-203-25-26=51g

+part skel  
MAM 30

♂ Marmosops incanus

+tissue in alcohol 305-180-22-27=37g

+part skel  
MAM 34

♀ Akodon cf cursor

196-93-27-18=27g

skel. +part skel  
MAM 36  
skel only

♂ Gracilinanus microtarsus

+tissue in alcohol 254-143-19-22=19g

Figueira Trail:

alcohol  
MAM 39

♂ Gracilinanus microtarsus

+tissue in alcohol 242-151-18-19=23g

alcohol  
MAM 18

♂ Oligoryzomys eliurus

+tissue in alcohol 191-115-23-16=16g

alcohol  
MAM 19

♀ Rhipidomys mastacalis

+tissue in alcohol 274-153-29-18=50g

alcohol  
MAM 47

♀ Micoureus cinereus

+tissue in alcohol 341-197-26-25=54g

+part skel  
MAM 31

♂ Marmosops incanus

+tissue in alcohol 290-173-22-24=40g

alcohol  
MAM 45

♀ Rhipidomys mastacalis

+tissue in alcohol tail broken in trap  
48120-foot 30-ear 18=49g

alcohol  
MAM 44

♀ Akodon cf cursor

+tissue in alcohol 196-90-27-19=30g

+part skel.  
MAM 49

young  
♀ Gracilinanus microtarsus

+tissue in alcohol 212-131-15-18=12g







## Faz. Intervalles / Ilha de São Sebastião - Brazil

+part skel.

MAM 20

♀ Marmosops incanus

+stomach in alcohol

+tissue in alcohol 310-171-21-23 = 38g

+part. skel.

MAM 33

♂ Marmosops incanus

+tissue in alcohol 305-190-21-25 = 40g

Didelphis

(released)

Fazenda da Toca, 23°49'S, 45°21'W, Ilha de São Sebastião,  
Ilhabela, São Paulo State, Brazil, 150m.

5 August

alcohol  
MAM 52

frog

6 August

+part skel  
MAM 53

2 embryos

♀ Proechimys iheringi

died on 7 Aug

+Karyotype

+tissue in alcohol 387-185-44-22 = 250g

+part skel  
MAM 54

2 embryos (col.)  
♀ Proechimys

"

died on 7 Aug

+Karyotype

+tissue in alcohol 378-176-50-26 = 225g

+part skel  
MAM 55

2 embryos CR = 23mm  
♀ Proechimys

"

+tissue in alcohol 379-169-47-22 = 230g

+part skel  
MAM 56

t = 18mm  
♂ Proechimys

"

+tissue in alcohol 350-156-43-26 = 180g

+part skel  
MAM 57

t = 28mm  
♂ Proechimys

"

died on 7 Aug

+tissue in alcohol 315-196-50-24 = 230g

alcohol  
MAM 58

♂ Proechimys

"

died on 8 Aug

+tissue in alcohol 405-182-49-22 = 260g

alcohol  
MAM 59

♂ Proechimys

"

died on 8 Aug

+tissue in alcohol 365-178-51-22 = 154g

alcohol  
MAM 60

♀ Proechimys

"

died on 8 Aug

+tissue in alcohol 370-171-48-24 = 154g

alcohol  
MAM 61

♀ Onychomys intermedius
~~capito~~

died on 8 Aug

+tissue in alcohol 325-178-39-20 = 110g

+part. skel.  
MAM 62

t = 9mm  
♂ Onychomys

"

died on 7 Aug

+tissue in alcohol 290-[137]-38-25 = 105g

+part skel  
MAM 63

♂ Philander opossum

died on 8 Aug

+tissue in alcohol 486-273-38-34 = 185g

+part skel.  
MAM 64

♂ Philander

"

died on 10 Aug

+tissue in alcohol 595-325-41-35 = 460g

MAM 65

♂ Monodelphis americana (escaped)

5

8 August

alcohol  
MAM 66

♂ Proechimys iheringi

+tissue in alcohol 347-[132]-49-22 = 230g

alcohol  
MAM 67

♂ Proechimys

"

+tissue in alcohol 411-197-51-24 = 235g







## São Sebastião Island / Ubatuba - Brazil

alcohol MAM 68	w/ 2 embryos (10mm) ♀ <u>Proechimys</u> <u>iheringi</u>	+ tissue in alcohol 356-[132]-48-21=285g
alcohol MAM 69	♂ <u>Proechimys</u> "	+ tissue in alcohol 402-180-52-23=275g
+ part skel MAM 70	♀ <sup>young</sup> <del>Proechimys</del> <u>Oryzomys</u> sp	+ tissue in alcohol 205-108-31-19=29g
+ part skel MAM 71	♂ <u>Marmosops</u> <sup>incanus</sup> died on 10 Aug	+ tissue in alcohol 350-203-23-26=77g
alcohol MAM 72	bird	+ tissue in alcohol
alcohol MAM 73	frog	

Praia do Félix, 23°23' S, 44°58' W, Ubatuba, São Paulo State, Brazil, 150 m.

15 August

alcohol MAM 74	♂ <u>Philander</u> <u>opossum</u>	+ tissue in alcohol 585-[297]-44-38=510g
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17 August

alcohol MAM 79	♀ <u>Sciurus</u> <u>aestuanus</u>	+ tissue in alcohol 396-200-54-18=205g
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Fazenda Capricórnio, 23°24' S, 45°04' W, Ubatuba, São Paulo State, Brazil, 150 m.

17 August

+ part skel MAM 75	disanded t=13mm ♂ <u>Akodon</u> cf <u>cursor</u>	+ tissue in alc. 193-92-26-18=45g
+ part skel MAM 76	disanded t=13mm ♂ <u>Akodon</u> cf <u>cursor</u>	+ tissue in alcohol 208-98-26-17=40g
alcohol MAM 77	disanded testicles ♂ <u>Akodon</u> cf <u>cursor</u>	+ tissue in alcohol 218-90-27-18=51g
alcohol MAM 78	♀ <u>Proechimys</u> <u>iheringi</u>	+ tissue in alcohol 355-171-46-26=200g

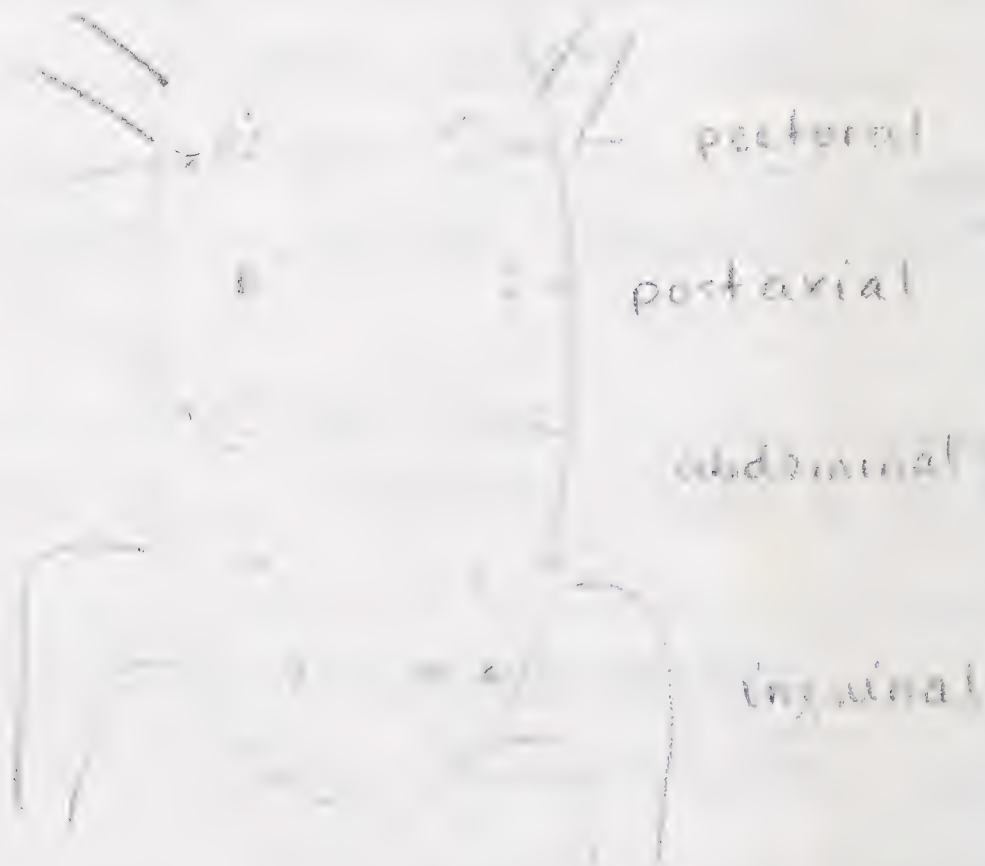


2000 Nov 02 - 412

25° 28'

45° 01'

non-present  
teats



3 pairs of mammae in  
Delomys dorsalis collinus  
from Barro Colorado - SP

(lack pectoral pair of southern  
D. d. dorsalis - Voss 1993)

(paratype - SP)



Ubatuba-SP Brazil

Fazenda Capricórnio, 5.5 Km N, 1.2 Km W Ubatuba  
(by rd.), State of São Paulo, Brazil, 23°25'S, 45°07'W,  
150m.

19 July

- +part. skel. ♀ nulliparous  
MAM 81 *Proechimys iheringi* +Karyotype  
+tissue in alc and frozen 180-[0]-44-22=145g
- +part. skel. 2 embryos CR=10mm  
MAM 82 ♀ *Proechimys iheringi* +Karyotype  
+tissue in alc and frozen 301-[91]-48-29=200g

20 July

- +part. skel. nulliparous  
MAM 83 ♀ *Proechimys iheringi* +tissue in alc and frozen 363-168-44-24=210g
- +part. skel. t=20mm  
MAM 84 ♂ *Proechimys* " +tissue in alc and frozen 326-159-47-26=155g
- alcohol  
MAM 85 ♀ *Proechimys* " +tissue in alc and frozen 382-181-49-25=180g
- +part. skel. 2 embryos +5mm perforated vagina  
MAM 86 ♀ *Proechimys* " +tissue in alc and frozen 357-170-43-25=190g
- +part. skel.  
MAM 87 ♂ *Akodon cursor* +Karyotype  
+tissue in alc and frozen 211-96-28-19=49g
- +part. skel.  
MAM 88 ♂ *Metachirus nudicaudatus* +tissue in alc. and frozen 580-335-34-48=300g

21 July

- +part. skel. t=29mm discarded liver w/ parasites col.  
MAM 89 ♂ *Proechimys iheringi* +tissue in alc and frozen 283-[77]-44-26=205g
- +part. skel. young t=23mm enlarged epididymus  
MAM 90 ♂ *Proechimys* " +tissue in alc and frozen 323-154-45-23=135g
- alcohol  
MAM 91 ♂ *Proechimys* " +tissue in alc and frozen 326-[132]-46-26=200g
- +part. skel. perforated vagina, enlarged uteri  
MAM 92 ♀ *Proechimys* " +tissue in alc and frozen 378-174-47-27=210g
- +part. skel.  
MAM 93 ♂ *Oryzomys intermedius* +Karyotype  
+tissue in alc and frozen 303-155-36-21=90g
- +part. skel. testis discarded, seminal vesicle epididymus enlarged  
MAM 94 ♂ *Oryzomys* " +Karyotype +reproduct. organs col.  
+tissue in alc and frozen 292-151-36-22=79g

22 July

- +part. skel. t=26mm  
MAM 95 ♂ *Proechimys iheringi* +tissue in alc and frozen 337-168-46-23=180g
- +part. skel. young t=9mm  
MAM 96 ♂ *Proechimys* " +tissue in alc and frozen 290-140-41-24=?

Estação Biológica de Boracéia, 3Km E, 28 Km SE  
Biritiba-Mirim (by rd.), State of São Paulo,  
Brazil, 23°S, 45°W, 850m.







E. B. Boracéia - SP

Brazil

26 July

+part. skull.  
MAM 97

♀ Philander opossum +tissue in alc and frozen  
young deciduous pmolar still in place (molariform)

426-230-32-27 = 120g

alcohol  
MAM 98

♀ Philander opossum +tissue in alc and frozen

415-216-38-25 = 110g

+part. skull.  
MAM 99

♂ Akodon cursor +tissue in alc and frozen  
t = 7mm 1 testicle descended +Karyotype

201-95-26-21 = 30g

+part. skull.  
MAM 100

♀ Delomys d. collinus +tissue in alc and frozen

235-133-31-19 = 30g

+part. skull.  
MAM 101

♀ Delomys d. collinus +tissue in alc and frozen

280-140-31-19 = 63g

+part. skull.  
MAM 103

♂ Oryzomys intermedius +tissue in alc and frozen  
t = 11mm

280-145-41-22 = 58g

+part. skull.  
MAM 104

♀ Oryzomys " +tissue in alc and frozen

285-159-36-23 = 58g

+part. skull.  
MAM 105

♂ " +tissue in alc and frozen  
t = 10mm

328-175-39-28 = 90g

+part. skull.  
MAM 106

♂ " +tissue in alc and frozen  
t = 12mm

303-158-36-22 = 80g

+part. skull.  
MAM 107

♀ nulliparous? +tissue in alc and frozen

265-140-33-23 = 43g

+part. skull.  
MAM 108

♂ t = 10mm 1 testicle descended, sem. vesicles enlarged  
+tissue in alc and frozen

272-142-34-22 = 62g

+part. skull.  
MAM 109

♀ " +tissue in alc and frozen

223-[83]-36-24 = 60g  
tail broken at trap door

+part. skull.  
MAM 110

♂ Delomys d. collinus +tissue in alc and frozen  
t = 16mm 1 testicle descended

261-135-31-21 = 47g

+part. skull.  
MAM 117

♂ t = 7mm descended  
Oligoryzomys elurus +tissue in alc and frozen

206-115-25-16 = 23g

+part. skull.  
MAM 118

♂ t = 8mm  
Rhipidomys mastacalis +tissue in alc and frozen  
+Karyotype (stayed out of temperature for 24 hrs)

273-152-29-19 = 56g

+part. skull.  
MAM 120

♂ t = 26mm  
Proechimys cheringi +tissue in alc and frozen

375-176-45-25 = 180g







E. B. Boracéia - SP, Brazil

27 July

+part. skel. MAM 122	♀ <i>Philander opossum</i>	+tissue male and frozen	488-254-39-28 = 165g
+part. skel. MAM 123	♂ <i>Delomys d. collinus</i>	+tissue in alc and frozen	251-129-30-21 = 50g
+part. skel. MAM 124	♀ <i>Delomys</i> "	+tissue in alc and frozen	274-140-32-20 = 45g
+part. skel. MAM 125	♂ <i>Delomys</i> "	+tissue in alc and frozen	265-[137]-31-21 = 50g
+part. skel. MAM 126	t= descended ♂ <i>Delomys</i> "	+reproductive organs in alc. +tissue in alc and frozen	286-150-32-24 = 69g
+part. skel. MAM 127	♀ <i>Proechimys iheringi</i>	+tissue in alc and frozen	330-[125]-48-28 = 200g

28 July

+part. skel. MAM 128	♀ <i>Philander opossum</i>	+tissue in alc and frozen	419-230-32-28 = 140g
+part. skel. MAM 129	♂ <i>Oryzomys</i> t=10mm, descended + reproduct. organs <del><i>Philander</i></del> <i>intermedius</i>	+tissue in alc and frozen	250-[108]-36-22 = 70g
alcohol MAM 130	young ♀ <i>Proechimys iheringi</i>	found dead inside trap, w/o ant. L leg +tissue in alc and frozen	186-87-33-18 = 38g
+part. skel. MAM 131	t=29mm ♂ <i>Proechimys</i> "	+tissue in alc and frozen	370-170-47-24 = 185g

29 July

+part. skel. MAM 132	t=6mm 1st bicus descended ♂ <i>Akodon cursor</i>	+karyotype +tissue in alc and frozen	190-87-28-18 = 25g
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30 July

+part. skel. MAM 133	t=10mm ♂ <i>Oryzomys intermedius</i>	+karyotype +tissue in alc and frozen	258-134-39-21 = 55g
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~~Musturangi, Meika A.~~ Caucaia do Alto, Município de  
Cotia, State of São Paulo, ~~Musturangi, Meika A.~~ Brazil,  
900m.

19 August

+part. skel. MAM 134	t=10mm not descended ♂ <i>Delomys</i> <del><i>sublineatus</i></del> <i>sublineatus</i>	+tissue in alc + frozen	246-110-29-30-20 = 55g
+part. skel. MAM 135	nulliparous? ♀ <i>Oryzomys ratticeps</i>	"	323-186-36-20 = 69g
+part. skel. MAM 136	t=9mm descended ♂ <i>Akodon cursor</i>	+karyotype	202-96-25-19 = 36g

20 August

+part. skel. MAM 137	♂ <i>Marmosops incanus</i>	+chromosome prep. by Marta Swartman +tissue in alc + frozen	320-195-22-26 = 48
+part. skel. MAM 138	t=9mm descended ♂ <i>Delomys sublineatus</i>	+tissue in alc and frozen	220-100-29-21 = 39g







Sítio Até Que Enfim - SP

+part. skel. closed vagina, uteri not enlarged 177-103-19-10=14g  
MAM 139 ♀ Oligoryzomys elurus +tissue male and frozen

21 August

alcohol found dead in trap  
MAM 140 ♀ Monodelphis americana +tissue male and frozen 158-52-17-12=21g

+part. skel. t=8mm descended  
MAM 141 ♂ Wilfredomys pictipes 195-113-20-15=21g

22 August

MAM 142 ♀ Caluromys philander (kept alive for M. Svartman) - USP

+part. skel. t=11mm descended +reprod tract  
MAM 143 ♂ Delomys sublineatus +tissue male and frozen 260-124-30-22=70g

Parque Estadual de Ilhabela, Ilha de São Sebastião,  
State of São Paulo, Brazil. 23°49' S, 45°21' W.

26 August

entrada de Castelhanos, 650m:

+part. skel. +reprod. tract  
MAM 144 ♀ Philander opossum +tissue male and frozen 480-260-36-32=175g

###

###

###

alcohol  
MAM 148 ♀ " " " " 505-262-38-33=185g

###

+part. skel. t=28mm not descended +reprod. tract (liver+kidney stayed out of N<sub>2</sub>  
MAM 150 ♂ Proechimys 410-193-50-27=185g  
for couple hours).

~~MAM 151~~ Chamaeza (Aves: Formicariidae) attacked and killed inside trap

trilha da Água Branca, 200m:

+part. skel. testicles descended  
MAM 152 ♂ Oryzomys intermedius +tissue male and frozen 307-157-37-24

✓

27 August

+part. skel. throat gland producing secretion  
MAM 154 ♂ Marmosops incanus +tissue male and frozen 360-210-24-28=67g

+part. skel.  
MAM 155 ♂ Philander opossum 533-295-40-34=230g

alcohol  
MAM 156 ♂ " " " 556-306-41-34=290g







P. E. Ilhabela - SP

- alcohol  
MAM 157 ♀ Akodon cf nigritta died in captivity  
+ tissue in alc and frozen 147-59-21-12 = 18g
- alcohol  
MAM 158 ♀ Proechimys iheringi pregnant?, vagina largely open and bleeding  
+ tissue in alc and frozen 391-175-49-28 = 245g

Chamaeza sp (Aves: Formicariidae)

- alcohol  
MAM 160 ♀ Monodelphis americana + liver w/ parasite  
+ tissue in alcohol and frozen 128-40-10-12 = 12g

trilha da Água branca, 200m:

Philander opossum

- + part. skel.  
MAM 163 ♂ Akodon cursor t = 11mm descended + reprod. tract  
Oryzomys intermedius + tissue in alc and frozen 325-173-37-26 = 115g
- + part. skel.  
MAM 164 ♀ " " " " " 330-177-37-24 = 90g

Proechimys iheringi

Chamaeza sp

28 August

estrada de Castelhanos, 650m:

- + part. skel.  
MAM 167 ♂ Monodelphis americana found dead in trap, + parasitized liver  
+ tissue in alc and frozen 135-48-18-13 = 18g

Proechimys iheringi

Chamaeza sp

trilha da Água Branca, 200m:

- + part. skel.  
MAM 171 ♂ Akodon cursor t = 8mm descended + reprod. tract and w/ parasites  
+ tissue in alc and frozen - no measurements -

- alcohol  
MAM 173 ♀ Proechimys iheringi young attacked and killed by ant in trap  
285-138-43-24 = 110g

Chamaeza sp

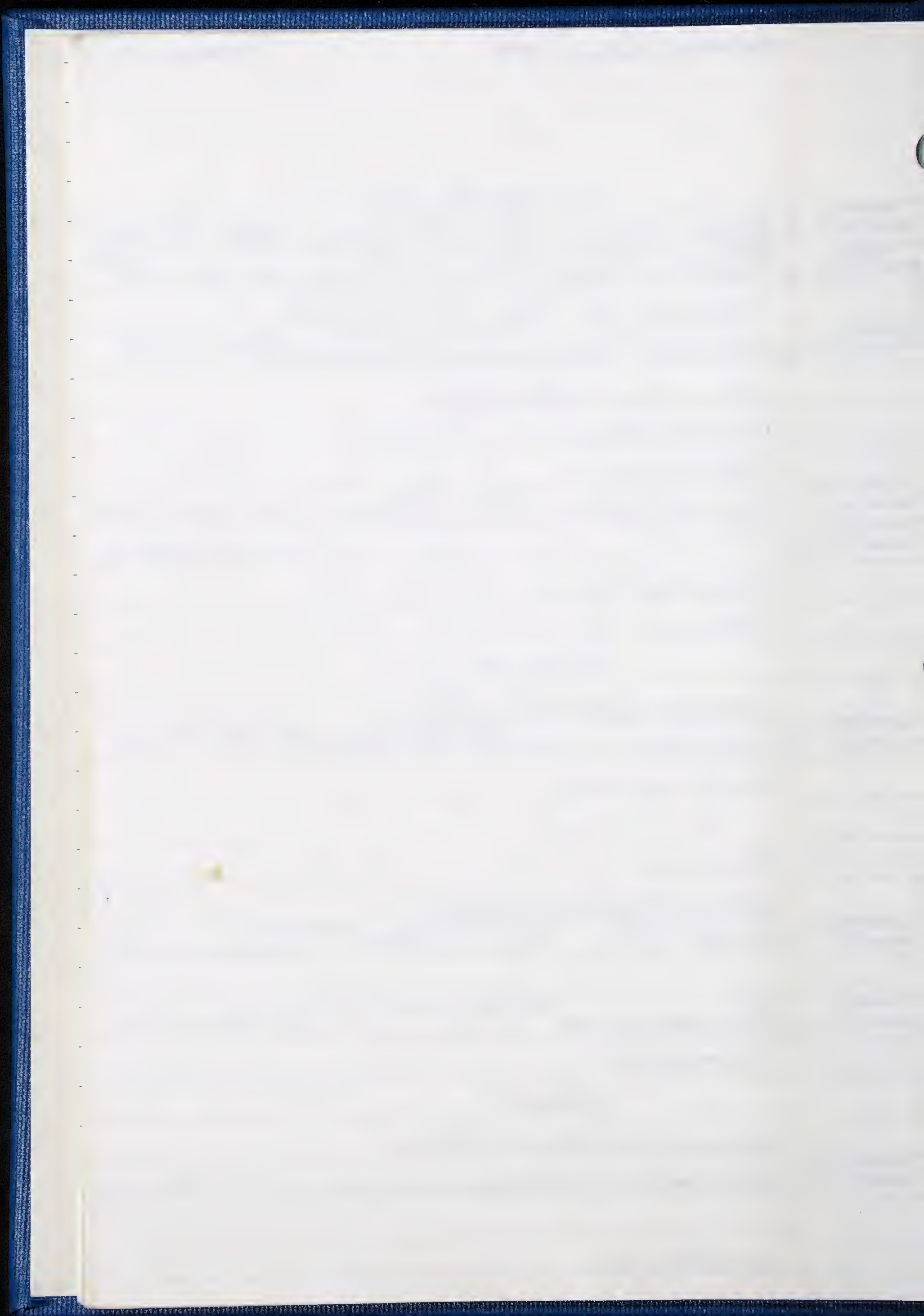
29 August

estrada de Castelhanos, 650m:

- + part. skel.  
MAM 175 ♀ Monodelphis americana + tissue in alc and frozen 128-46-25-12 = 12g

Akodon cursor







P. E. Ilhabela - SP

alcohol  
MAM 178

♂ Monodelphis americana + liver w/ parasite + tissue in alc and frozen 145-45-17-12 = 18g

Chamaeza sp

"

trilha da Água Branca, 200m:

Akodon cf cursor

Onychomys intermedius

"

Proechimys iheringi

Chamaeza sp

Parque Nacional do Itatiaia, Município de Itatiaia  
~~Ilhabela, Penedo, State of Rio de~~  
Janeiro, Brazil, ~~22° 30' S, 44° 40' W~~, 500m.

22 September

+part. skel.  
MAM 179

t. 14mm descended  
♂ Akodon cursor

+tissue in alc and frozen 229-100-28-19 = 53g

+part. skel.  
MAM 180

♀ "

204-89-27-19 = 38g

+alcohol  
MAM 181

♂

227-104-27-19 = 54g

+part. skel.  
MAM 182

♂ Marxosops incanus

+liver w/ parasites  
+tissue in alc and frozen 365-210-23-28 = 86g

+part. skel.  
MAM 183

♂ Philander opossum

595-305-43-35 = 500g

23 September

+part. skel.  
MAM 184

open vagina 1 embryo = 40mm long (col.)  
♀ Proechimys

+tissue in alc. and frozen 360-166-47-26 = 210g

Private lands of Cia. Mineradoras Brasileiras

Reunidas <sup>ibicui</sup> Município de Mangaratiba, State of  
Rio de Janeiro, ~~22° 30' S, 44° 40' W~~, Brazil, 50m.

27 September

+part. skel.  
MAM 185

vagina closed  
♀ Proechimys

+tissue in alc and frozen 365-175-45-27 = 165g







Mangaratiba - RJ

28 September

- +part. skel. MAM 186 ♂ *Marmosops incanus* throat gland exuding, coarse and short scapular hairs + tissue in alc and frozen 355 - 199 - 23 - 26 = 75g  
 +part. skel. MAM 187 ♂ *Metachirus nudicaudatus* deciduous premolar still in place 396 - 226 - 35 - 30 = 110g

29 September

- +part. skel. MAM 188 ♂ *Marmosops incanus* left testicle blueish in color, right testicle white, throat gland exuding + parasites in mesentary + tissue in alc. and frozen 352 - 202 - 22 - 26 = 72g

Estação Biológica Santa Lúcia, Município de Santa Tereza, State of Espírito Santo, Brazil, 650m.

2 October

- +part. skel. MAM 189 ♀ *Philander opossum* teats not conspicuous + tissue in alc and frozen 510 - 268 - 35 - 37 = 200g  
 +part. skel. MAM 180 ♀ *Oryzomys intermedius* closed vagina 296 - 152 - 34 - 22 = 72g  
 tissue only MAM 191 *Mazama americana* tissue in alcohol

Forest fragments of Aracruz Celulose Co., Santa Cruz, Município de Aracruz, State of Espírito Santo, Brazil, 19°50'S, 40°10'W, 50m.

7 October

- +part. skel. MAM 192 ♀ *Marmosops incanus* 11 teats visible + reprod. tract 320 - 188 - 21 - 26 = 53g  
 +part. skel. MAM 193 ♂ *Metachirus nudicaudatus* testes 16mm, pink; abdominal gland exuding + tissue in alc. and frozen ~~585 - 325 - 45 - 40 = 415g~~  
~~alcohol MAM 197~~

Reserva Florestal da Cia. Vale do Rio Doce, 30 Km N (by rd.) from Linhares, State of Espírito Santo, Brazil, 50m.

- +part. skel. MAM 194 ♂ *Marmosops incanus* blue testicles, throat gland yellow but not exuding + tissue in alc and frozen 390 - 213 - 22 - 29 = 100g  
 +part. skel. MAM 195 ♀ *Nectomys squamipes* vagina closed 370 - 193 - 47 - 23 = 130g  
 +part. skel. MAM 196 ♀ *Rhipidomys mastacalis* vagina closed 200 - 109 - 23 - 17 = 23g

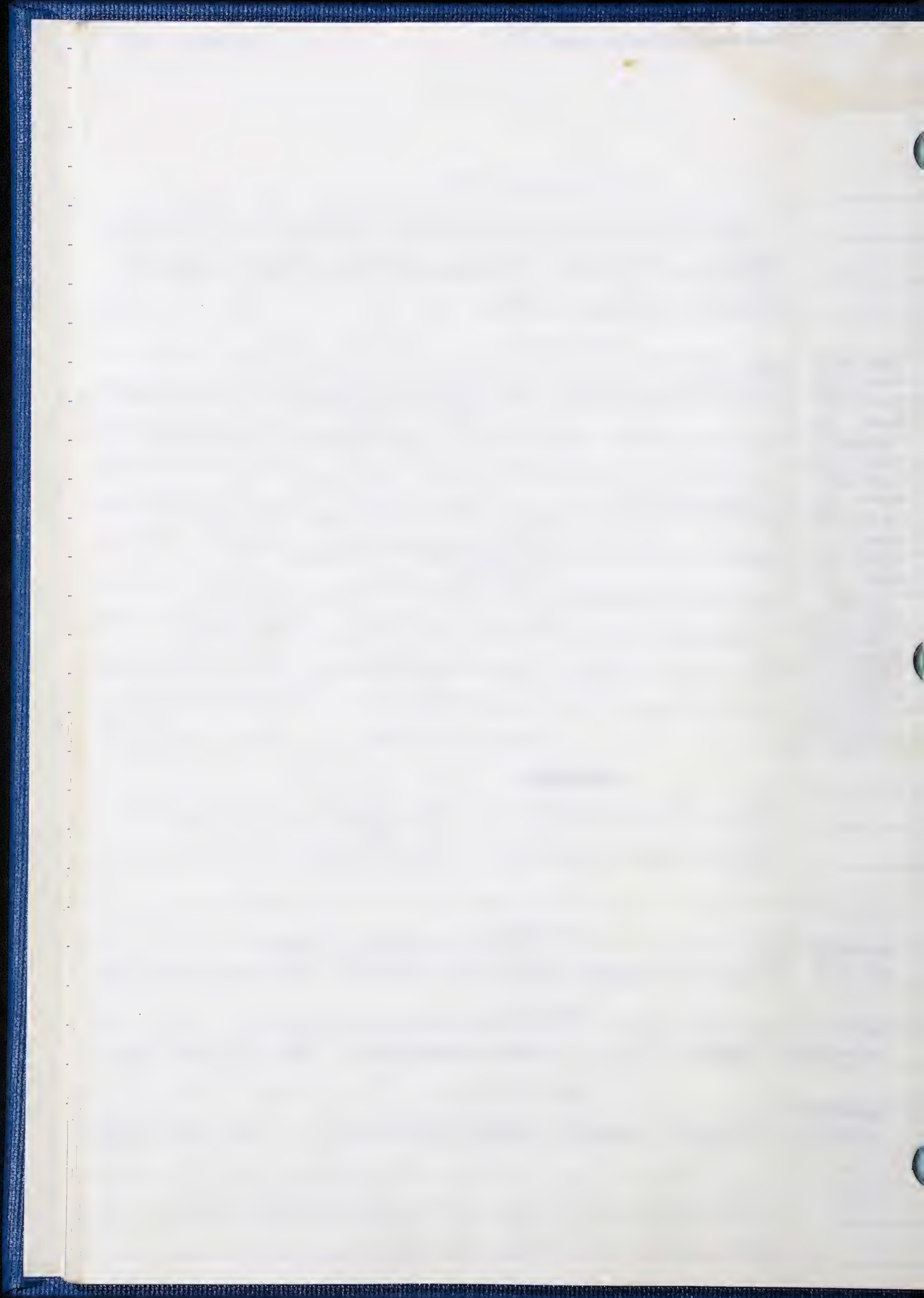


\* skins MAN 175 and MAN 206  
had labels switched  
that was corrected on March 18, 1994











## E.B. Boracéia - SP

17 November

alcohol

MAM 211

+ chromosomes by Marta Stuartman  
 ♀ Philander opossum + tissue in alc and frozen 527-286-38-30 = 200g

19 November

alcohol

MAM 212

~~Philander opossum~~  
 ♂ Nectomys squamipes + tissue alc, frozen 445-227-54-21 = 250g

Estação Biológica de Boracéia, 3 Km E, 28 Km SE Biritiba-

Mirim, Município de Salesópolis, Estado de São Paulo,

Brasil, 23° 39' S, 45° 54' W, 850 m.

22 November

+ part. skull.

MAM 213

nsr t=12.3mm  
 ♂ Akodon cursor

+ tissue in alc and frozen

155-74-25-16 = 18g

+ part. skull.

MAM 214

nsr t=1.3mm 7mm  
 ♂ " "

213-96-26-19 = 40g

+ part. skull.

MAM 215

scr t=19/11mm SV=20mm  
 ♂ Delomys d. collinus

288-149-33-22 = 69g

alcohol

MAM 216

scr  
 ♂ " "

267-129-31-21 = 61g

alcohol

MAM 217

scr  
 ♂ " "

281+ -135<sup>+</sup> -34-22 = 84g

alcohol

MAM 218

nsr; juvenile  
 ♂ " "

185-99-29-20 = 19g

alcohol

MAM 219

nsr; juvenile  
 ♂ " "

211-109-31-21 = 27g

+ part. skull

MAM 220

vagina open; nipples visible OR 3L CR=18mm  
 ♀ " "

274-135-31-23 = 69g

alcohol

MAM 221

vagina closed; nipples visible + lactating  
 ♀ " "

278-140-32-22 = 54g

alcohol

MAM 222

vagina closed; nipples enlarged, not lactating  
 ♀ " "

278-147-33-23 = 50g

alcohol

MAM 223

vagina closed; nipples enlarged + lactating  
 ♀ " "

267-135-31-21 = 59g

alcohol

MAM 224

vagina open; nipples visible not lactating  
 ♀ " "

272-142-32-22 = 54g

+ part. skull.

MAM 225

nsr t=28.5mm SV=7mm  
 ♂ Oryzomys intermedius

266-145-35-22 = 48g

+ part. skull.

MAM 226

scr  
 ♂ " "

326-172-39-25 = 99g

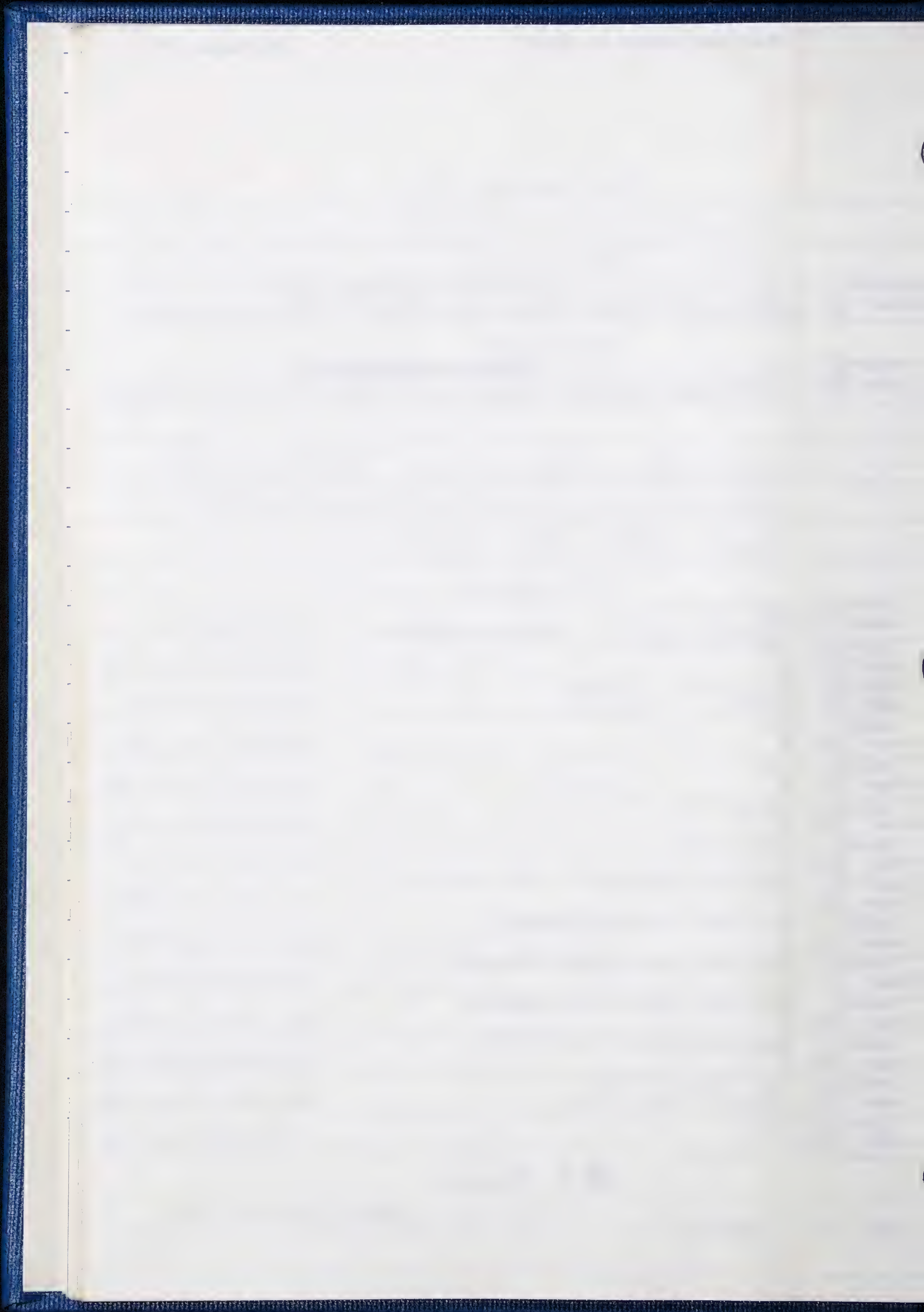
23 November

MAM 227

Proechimys

Kept alive for Pedro da Rocha (USP)







Faz Guaiçana - PR

Fazenda Guaricana, Guaratuba, Município de Morretes,  
Estado do Paraná, Brasil, 400m.

28 November

~~MAM 228~~

Monodelphis

escaped.

+part. skull.

scr to 8 x 13 mm SV = 14 mm

MAM 229

♂ Akodon cursor + tissue in alc and frozen 220 - 97 - 25 - 18 = 53g.

29 November

+part. skull.

MAM 230

vagina open; nipples visible (pectoral + postaxial + abdominal + inguinal)  
♀ Akodon <sup>CR = 12 mm</sup> 32.0C + tissue in alc and frozen 202 - 85 - 25 - 20 = 48g

30 November

alcohol

MAM 231

scr  
♂ Akodon cursor + tissue in alc and frozen

192 - 92 - 25 - 18 = 32g

alcohol

MAM 232

scr  
♂ " " " " "

217 - 97 - 29 - 21 = 48g

~~alcohol~~ + part. skull.

MAM 233

juv. nscr  
♂ Rattus rattus alexandrinus

267 - 158 - 33 - 22 = 35g

alcohol

MAM 234

♂ Didelphis marsupialis " "

+ chromosomes by M. Svartman  
475 - 258 - 43 - 39 = 190g

Refúgio Bela Vista, Cia. Itaipu Binacional, 14 Km NE Foz do  
Iguacu, Estado do Paraná, Brasil, 25° 25' S, 54° 32' W.

4 December

~~MAM 235~~

MAM 235

young

♀ Didelphis albiventris + tissue

561 - 290 - 45 - 45 = 353g

alcohol

MAM 236

young

♀ " " "

+ chromosomes by M. Svartman  
450 - 223 - 41 - 44 = 210g

alcohol

MAM 237

young

♀ " " "

+ chromosomes by M. Svartman  
485 - 245 - 43 - 42 = 250g

Base Saibadela, Fazenda Intervalos, Município de Sete

Barras, Estado de São Paulo, Brasil, 24° 13' S, 48° 05' W,

100 m.

9 December

~~MAM 238~~

MAM 238

13 young in pouch (10 ♀ + 3 ♂) CR = 46 mm

♀ Didelphis marsupialis

780 - 402 - 60 - 52 = 1,240g







## Saibadela-Intervales - SP

alcohol MAM 239	♀ <u>D. marsupialis</u> + tissue	+ chromosomes by M. Svartman 482-247-43-45 = 190g
alcohol MAM 240	(died overnight in animal room) ♀ <u>Metachirus nudicaudatus</u> + tissue	+ chromosomes by M. Svartman 567-310-46-35 = 320g
alcohol MAM 241	open vagina; nipples visible ♀ <u>Akodon cursor</u>	" 196-88-24-20 = 60g
+part. skel. MAM 242	scr. t = 9x6mm SV = 8mm ♂ <u>Oryzomys intermedius</u>	" 310-158-36-25 = 94g
+part. skel. MAM 243	open vagina; nipples not visible OL/IR CR = 28mm ♀ <u>Proechimys i. iheringi</u>	" 363-163-45-26 = 220g
alcohol MAM 244	open vagina ♀ " " "	<del>376-180-46-25 = 180g</del> 376-180-46-25 = 180g
+part. skel. MAM 245	juv ♀ " " "	" 264-122-40-22 = 86g

## 10 December

alcohol MAM 246	♂ <u>Metachirus nudicaudatus</u> + tissue	325-176-38-23 = 98g
+part. skel. MAM 247	nsr t = 4x8mm SV = 18mm ♂ <u>Oryzomys intermedius</u>	+ chromosome by M. Svartman 614-343-51-35 = 420g

## 11 December

+part. skel. MAM 248	vaginal plug present, vagina full of semen ♀ <u>Akodon cursor</u> + tissue	224-118-30-20 = 43g
+part. skel. MAM 249	scr sub adult pelage t = 9x5mm SV = 14mm ♂ <u>Oryzomys intermedius</u>	" 280-153-35-23 = 56g
alcohol MAM 250	♂ scr " "	" 323-178-37-25 = 87g
alcohol MAM 251	♂ scr " "	" 303-162-37-24 = 73g
+part. skel. MAM 252	juvenile pelage vagina open IR/ZL CR = 7mm ♀ " " "	" 242-124-35-22 = 46g
alcohol MAM 253	immature ♂ <u>Proechimys i. iheringi</u>	" 383-175-48-25 = 158g

Base do Rio Verde, Estação Ecológica Juréia-Itatins,

Município de Peruíbe, Estado de São Paulo, Brasil,

24°30'S, 47°12'W, 50m.

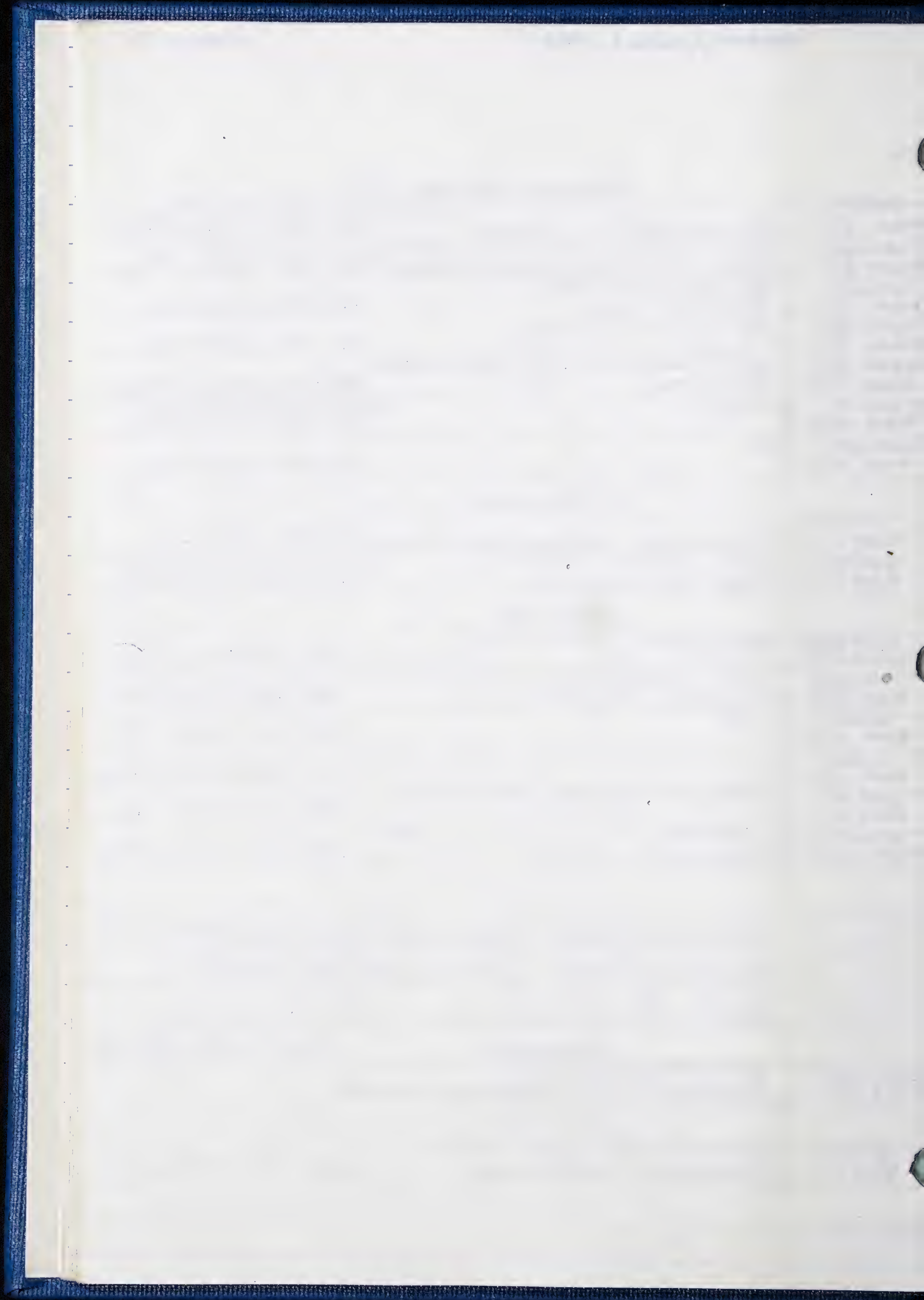
## 22 December

+part. skel. MAM 254	juvenile pelage, vagina closed ♀ <u>Proechimys i. iheringi</u> + tissue in alc. and frozen	330-153-44-24 = 140g
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## 23 December

alcohol MAM 255	subadult pelage vagina closed ♀ <u>Proechimys i. iheringi</u> + tissue	339-159-47-19 = 155g
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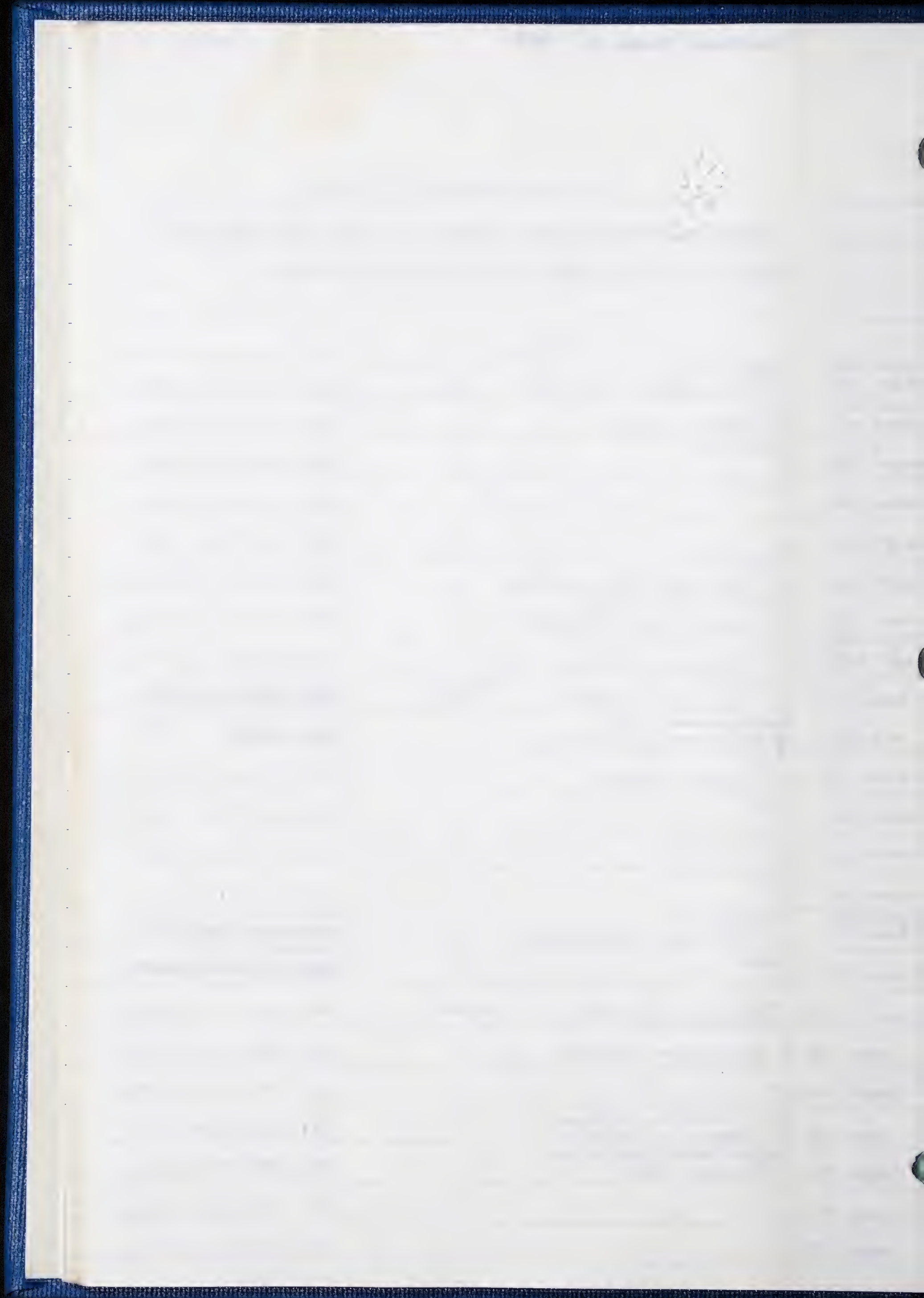
## Fazenda Intervalles, SP, Brasil

Fazenda Intervalles (base do Carmo), Município de Capão Bonito,  
Estado de São Paulo, Brasil, 24°20'S, 48°25'W, 700 m.

14 July

+part. skel. MAM 256	white testis ♂ <u>Marmosops incanus</u>	+tissue	332 - 201 - 23 - 21 = 49 g
+part. skel. MAM 257	nscr ♂ <u>Akodon cursor</u>	"	222 - 116 - 28 - 19 = 47 g
" MAM 258	closed vagina ♀ " "	"	194 - 89 - 27 - 17 = 35 g
" MAM 259	closed vagina ♀ " "	"	214 - 103 - 28 - 18 = 36 g
" MAM 260	♀ " "	"	176 - 86 - 27 - 17 = 21 g
" MAM 261	open vagina ♀ <u>Oryzomys intermedius</u>	"	286 - 151 - 37 - 23 = 73 g
MAM 262	nscr t=15x7mm SV=8mm ♂ <u>Oxymycterus hispidus</u>	"	305 - 150 - 40 - 24 = 117 g
+part. skel. MAM 263	scr t=22x12mm SV=23mm ♂ <u>Sciurus aestuans</u>	"	351 - 178 - 48 - 25 = 142 g
" MAM 264	vagina closed ♀ <u>Oryzomys intermedius</u>	+karyotype +tissue	273 - 145 - 36 - 21 = 54 g <del>273 - 145 - 36 - 21 = 54 g</del>
MAM 265	<del>nscr</del> ♂ <u>Oligoryzomys elurus</u>	"	229 - 138 - 27 - 17 = 23 g <del>229 - 138 - 27 - 17 = 23 g</del>
MAM 266	nscr ♂ <u>Akodon cursor</u>	"	203 - 95 - 28 - 18 = 38 g
MAM 267	nscr ♂ " "	"	207 - 97 - 28 - 18 = 37 g
MAM 268	closed vagina ♀ " "	"	200 - 97 - 29 - 17 = 33 g
MAM 269	nscr t=10x6mm ♂ " "	"	211 - 95 - 26 - 17 = 52 g
+part. skel. MAM 270	closed vagina ♀ <u>Nectomys squamipes</u>	"	374 - 206 - 51 - 24 = 114 g <del>374 - 206 - 51 - 24 = 114 g</del>
" MAM 271	closed ♀ " "	"	385 - 206 - 51 - 24 <del>385 - 206 - 51 - 24</del>
MAM 272	♂ <u>Philander opossum</u>	+tissue	591 - 322 - 41 - 33 = 348 g
MAM 273	♀ <u>Marmosops incanus</u>	"	282 - 168 - 20 - 22 = 25 g
MAM 274	♂ " "	"	321 - 195 - 23 - 22 = 42 g
MAM 275	scr t=13x6mm SV=12mm ♂ <u>Delomys d. dorsalis</u>	"	319 - 168 - 34 - 23 = 79 g
MAM 276	vagina closed, nulliparous ♀ <u>Akodon cursor</u>	"	209 - 98 - 28 - 19 = 37 g
MAM 277	♀ " "	"	168 - 79 - 24 - 17 = 21 g
MAM 278	♂ " "	"	198 - 94 - 26 - 16 = 29 g







## Fazenda Intervalos (base do Carmo)

15 July

MAM 279	fluid ♂	<i>Oxymycterus hispidus</i>	+ tissue	289 - 142 - 37 - 22 = 102 grams
MAM 280	+ part. skel. ♂	non-scrotal t=7x4 <i>Akodon cursor</i>	"	226 - 115 - 28 - 19 = 44 grams
MAM 281	♂	non-scr t=10x6 SV=6 <i>Akodon</i>	"	226 - 109 - 29 - 19 = 55 grams
MAM 282	♀	nipples large scars 2R-OL <i>Akodon</i>	"	202 - 195 - 25 - 17 = 42 grams
MAM 283	fluid ♀	vagina closed <i>Delomys d. dorsalis</i>	"	279 - 146 - 32 - 23 = 66 grams
MAM 284	fluid ♀	vagina closed <i>Delomys</i>	"	201 <sup>+</sup> - 77 <sup>+</sup> - 30 - 22 = 52 grams
MAM 285	+ part. skel. ♀	vagina open <i>Oryzomys intermedius</i>	"	287 - 164 - 38 - 23 = 56 grams
MAM 286	fluid ♂	scrotal t=7x5 SV=16 <i>Oryzomys</i>	"	310 - 166 - 39 - 24 = 92 grams
MAM 287	fluid ♀	pelvis open <i>Oryzomys</i>	"	317 - 167 - 38 - 25 = 95 grams
MAM 288	fluid ♂	non-scrotal <i>Oligoryzomys elianus</i>	"	222 - 133 - 26 - 16 = 22 grams
MAM 289	+ part. skel. ♂	t=17x10 SV=8 <i>Proechomys i. iheringi</i>	"	370 - 177 - 50 - 25 = 198 grams
MAM 290	♂	non-scrotal t=8x5 SV=5 <i>Delomys d. dorsalis</i>	"	270 - 143 - 33 - 22 = 49 grams
" 291	♂	non-scrotal t=7x5 SV=7 <i>Delomys</i>	"	236 - 115 - 30 - 23 = 48 grams
" 292	♂	non-scrotal t=9x6 SV=5 <i>Delomys</i>	"	268 - 138 - 33 - 23 = 57 grams
" 293	♂	non-scrotal t=14x8 SV=7 <i>Delomys</i>	"	315 - 145 - 34 - 23 = 92 grams
" 294	♂	non-scrotal t=7x5 SV=10 <i>Oryzomys intermedius</i>	"	314 - 171 - 39 - 25 = 82 grams
" 295	♂	non-scrotal t=8x5 SV=14 <i>Oryzomys intermedius</i>	"	324 - 175 - 39 - 23 = 96 grams
" 296	♀	vagina closed, nulliparous <i>Oryzomys</i>	"	325 - 176 - 40 - 24 = 82 grams
" 297	♀	vagina closed, nulliparous <i>Delomys d. dorsalis</i>	"	240 - 117 - 30 - 22 = 55 grams
" 298	♀	vagina closed, uterus enlarged <i>Delomys</i>	"	267 - 135 - 31 - 22 = 53 grams
" 299	♀	vagina closed, nulliparous <i>Akodon cursor</i>	"	199 - 95 - 28 - 18 = 34 grams
" 300	♀	vagina closed, nulliparous <i>Akodon</i>	"	180 - 82 - 26 - 18 = 27 grams
" 301	♀	vagina closed, nulliparous <i>Akodon</i>	"	188 - 90 - 27 - 19 = 25 grams
" 302	♂	non-scrotal t=4x2 <i>Akodon</i>	"	210 - 102 - 28 - 19 = 34 grams
" 303	♂	non-scrotal t=5x3 <i>Akodon</i>	"	205 - 97 - 28 - 19 = 37 grams
" 304	♂	non-scrotal t=4x2 <i>Akodon</i>	"	179 - 80 - 25 - 17 = 25 grams







## Fazenda Intervalos (base do Carmo)

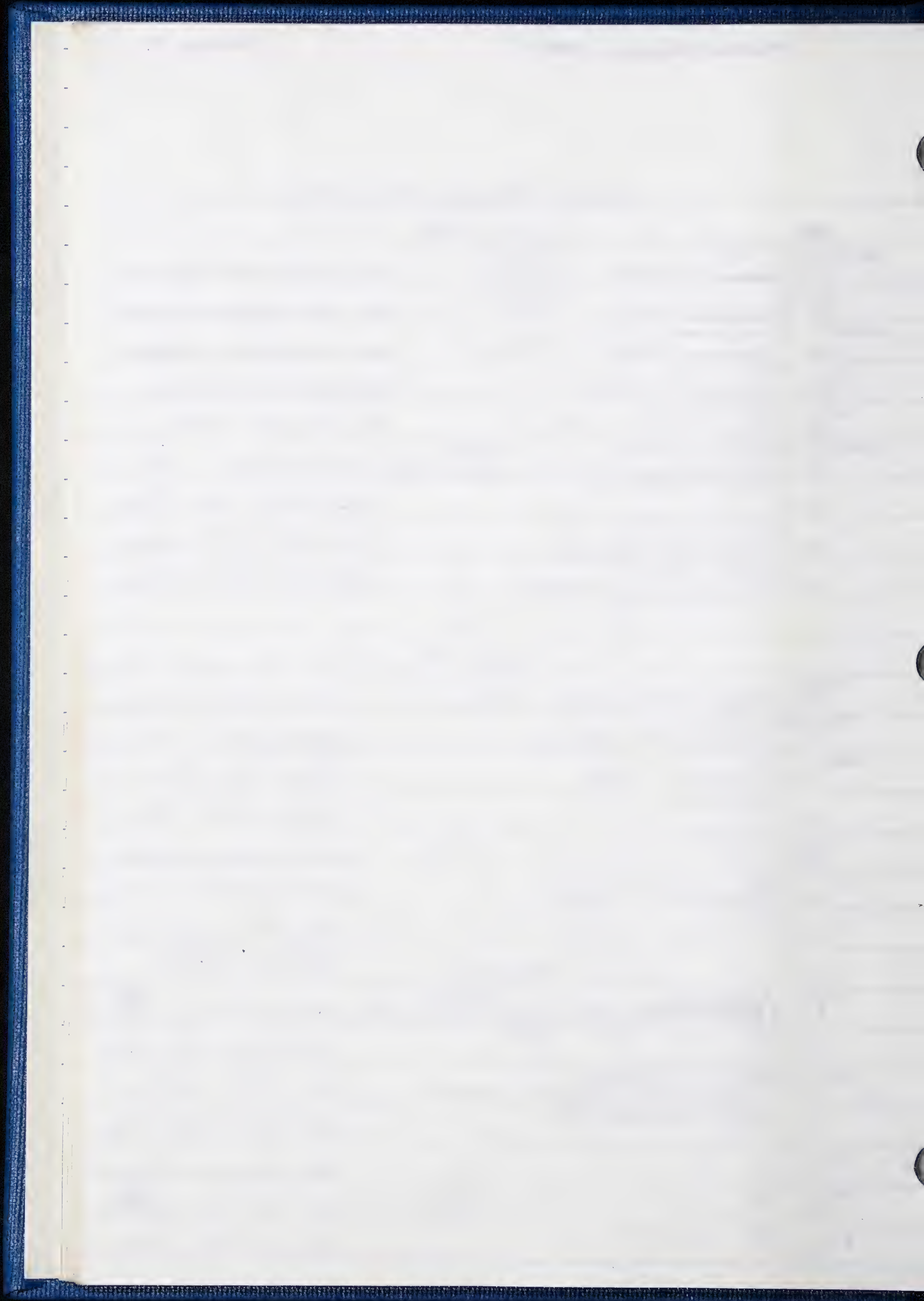
15 July 1994

+part. skel.	♂ t=12x10mm	+beetles	
305	Marmosops incanus	+tissue	365 - 212 - 23 - 24 = 60 grams
fluid	♂	+beetles	
306	Marmosops incanus	+tissue	339 - 200 - 25 - 23 = 51 grams
+part. skel.	♀ nulliparous		
307	Marmosops incanus	+tissue	293 - 176 - 21 - 22 = 28 grams
fluid	closed vagina		
308	♀ Delomys d. dorsalis	"	(+23) - (+94) - 21 - 24 = 51 g
fluid	vagina closed		
309	♀ Oryzomys intermedius	"	292 - 157 - 37 - 25 = 50 g
+part. skel.	closed vagina, nulliparous	+tissue	
310	♀ Oxymycterus hispidus	+chromosomes	285 - 141 - 38 - 24 = 81 g
"	nscr t=12x6 sv=6		
311	♂	"	277 - 173 - 37 - 23 = 74 g
"	nscr t=7x5 sv=6		
312	♂ Oryzomys ratticeps	"	392 - 227 - 42 - 23 = 102 g
"	vagina closed, nulliparous		
313	♀ Oligoryzomys elurus	"	209 - 122 - 25 - 18 = 18 g

18 July 1994

fluid	314	♂ Marmosops incanus	+tissue	348 - 203 - 25 - 23 = 54 grams
+part. skel.	315	♂ Philander opossum	"	580 - 318 - 40 - 33 = 295 grams
alcohol	316	nscr ♂ Akodon cursor	"	233 - 110 - 30 - 20 = 50 g
"	317	♀ " "	"	212 - 102 - 27 - 18 = 39 g
fluid	318	non-scr ♂ " "	"	205 - 97 - 28 - 19 = 42 grams
alcohol	319	nscr ♂ Delomys d. dorsalis	"	(+215) - (+92) - 31 - 22 = 44 g
"	320	scr ♂ " "	"	256 - 129 - 32 - 22 = 71 g
"	321	? " "	(no tissue)	eaten in snaptrap 260 - 125 - 31 - 22 = -
alcohol	322	vagina closed ♀ <del>Nectomys squa</del> Nectomys squa	+tissue +chromosomes	363 - 197 - 49 - 24 = 145 g
"	323	nscr ♂ " "	"	404 - 214 - 49 - 25 = 218 g
+part. skel.	324	vagina closed; nulliparous ♀ Oryzomys intermedius	+tissue	301 - 164 - 37 - 25 = 59 g
"	325	vagina closed; scars R1-OL ♀ " "	"	292 - 158 - 39 - 24 = 83 g
fluid	326	♂ " "	"	325 - 176 - 39 - 24 = 93 grams
alcohol	327	nscr ♂ " "	+tissue +chromosomes	316 - 170 - 38 - 24 = 86 g
"	328	nscr ♂ " "	"	315 - 171 - 38 - 24 = 68 g







## Fazenda Intervalles (base Carmo)

alcohol	nscr			
329	♂	<u>Oxymycterus hispidus</u>	+ tissue	298-153-38-24 = 95g
"	nscr	"	"	
330	♂	"	"	308-144-39-25 = 127g
"	vagina closed	"	"	
331	♀	"	"	277-131-37-24 = 99g
+ part. skull	nscr; t=12x6mm SV=9mm	"	"	
332	♂	"	"	306-147-38-25 = 109g
"	vagina closed; scars OR-3L	"	"	
333	♀	"	"	310-155-37-25 = 108g
"	vagina closed; nulliparous	"	"	
334	♀	"	"	278-137-37-23 = 74g
"	<del>non-scrotal</del> nulliparous	"	"	
335	♀	"	"	245-115-33-22 = 55grams
"	non-scrotal t=5x4mm	"	"	
336	♂	"	"	234-114-34-21 = 50grams

19 July 1994

337	♂	t=8x6mm <u>Gracilinanus microtarsus</u>		259-161-20-19 = 21grams
338	♀	<u>Micoureus demerarae</u>		359-212-27-26 = 55grams
+ part. skull				
339	♀	<u>Monodelphis americana</u>		112-39-14-11 = 11g
"	nscr t=9x6mm			
340	♂	<u>Akodon cursor</u>		211-104-28-18 = 40g
"	vagina closed; nulliparous			
341	♀	"		211-106-27-18 = 33g
342	♀	pelvis closed; nulliparous	+ chromosomes	153-73-24-15 = 15grams
343	♀	pelvis closed; nulliparous	+ chromosomes	183-82-27-17 = 24grams
344	♀	vagina open; uterus enlarged <u>Delomys d. dorsalis</u>	+ chromosomes	244-111-31-23 = 54grams
+ part. skull	vagina closed; nulliparous			
345	♀	<u>Oryzomys intermedius</u>		277-147-36-24 = 58g
"	nscr t=10x6mm SV=10mm			
346	♂	"		321-177-38-25 = 90g
347	♂	non-scrotal; t=12x8mm SV=5mm <u>Delomys d. dorsalis</u>	+ chromosomes	272-144-33-23 = 46grams
+ part. skull	nscr t=8x5mm SV=5mm			
348	♂	<u>Oxymycterus hispidus</u>		295-146-39-23 = 92g
fluid	non-scrotal			
349	♂	"		299-139-35-26 = 92grams
fluid	non-scrotal			
350	♂	"		297-138-37-27 = 103grams



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## Fazenda Intervalos (base do Carmo)

Fazenda Intervalos (base do Carmo), Município de  
Capão Bonito, Estado de São Paulo, Brasil, 24°20's, 48°25'W

22 July 1994

700m.

+ part. skel 351	vagina closed; parous; recently emmenated ♀ <u>Akodon cursor</u>	+ tissue LN <sub>2</sub>	225-115-29-20 = 50 gram
" 352	open vagina; fresh scars 1R-1L ♀ <u>Delomys d. dorsalis</u>	"	273-145-32-23 = 58g
skel. only 353	scrotal; t=17x11mm; sv=14mm ♂ " " "	"	292-152-32-23 = 78g
+ part. skel. 354	nscrotal; t=4x3mm; sv=3mm ♂ <u>Oligomys elurus</u>	"	206-118-26-18 = 21g
" 355	nscr; t=7x4mm; sv=6mm ♂ " " "	"	210-124-26-17 = 20g
" 356	scr; t=6x4mm; sv=3mm ♂ " " "	"	192-115-26-15 = 17g
" 357	scr; t=6x4mm; sv=3mm ♂ " " "	"	204-116-26-15 = 22g
" 358	open vagina ♀ <u>Nectomys squamipes</u>	"	438-242-53-24 = 191g
" 359	mammal visible; ♀ <u>Onychomys intermedius</u>	+ chromosomes	— - <sup>152</sup> — - 37-23 = 66g
— 360 —			
" 361	scr; t=8x6mm; sv=13mm ♂ " " "	"	285-153-37-23 = 83g
skel. only 362	open vagina; uterus enlarged & ♀ " vascularized "	"	302-159-38-23 = 85g
fluid 363	scrotal ♂ <u>Oxymycterus hispidus</u>	"	321-155-38-23 = 129 gram
+ part. skel. 364	uteri swollen & vascularized ♀ <u>Proechimys i. iheringi</u>	+ chromosomes	365-170-42-28 = 167g

23 July 1994

alcohol 365	♂ <u>Micoureus demerarae</u>	+ tissue LN <sub>2</sub> + etOH	350-200-29-27 = 80g
alcohol 366	nscr ♂ <u>Akodon nigrita</u>	+ chromosomes	134-53-22-12 = 16g
fluid 367	non-scrotal ♂ " <u>cursor</u>		189-105-27-17 = 24 grams
368	vagina closed; nulliparous ♀ " "		192-91-28-17 = 29 grams
fluid 369	♂ <del>Delomys</del> " "		219-116-29-19 = 39 grams
fluid 370	scrotal ♂ <u>Delomys d. dorsalis</u>		257-122-32-23 = 69 grams
fluid 371	non-scrotal ♂ " " "		258-135-32-23 = 47 grams
fluid 372	vagina closed ♀ " " "		256-141-32-22 = 42 grams
373	non-scrotal; t=7x4mm; sv=6mm ♂ " " "		231-109-30-21 = 44 grams







## Fazenda Intervales (base do Carmo)

Fazenda Intervales (base do Carmo), Município de Capão Bonito,  
Estado de São Paulo, Brasil, 24°20'S, 48°25'W, 700m.

23 July 1994

374	♂	scrotal; t=14x9mm; sv=9mm <i>Delomys d. dorsalis</i>	+ tissue L&Z	273-143-33-23 = 58 grams
375	♂	non-scrotal; t=6x3mm; sv=3mm <i>Oligoryzomys diurus</i>	"	207-122-25-15 = 18 grams
376	♀	vagina closed; scars 3R-OL	"	213-133-26-16 = 16 grams
fluid 377	♂	non-scrotal	"	238-147-28-18 = 17 grams
fluid 378	♀	vagina closed	"	221-129-27-16 = 20 grams
379	♂	non-scrotal; t=8x5mm; sv=12mm <i>Oryzomys intermedius</i>	"	307-167-41-25 = 75 grams
alcohol 380	♀	vagina closed	+ chromosomes	306-164-38-23 = 73 g
fluid 381	♂	non-scrotal <i>Oxymycterus hispidus</i>	"	291-134-36-24 = 117 grams
fluid 382	♂	scrotal	"	252 <sup>+</sup> -86 <sup>+</sup> -38-25 = 182 grams

Estação Biológica de Boracéia, 3km E, 28 km SE Biritiba-Mirim  
(by rd.), State of São Paulo, Brazil, 23°39'S, 45°54'W, 850m.

29 July 1994

+ part. skel.	non-scrotal; t=7x4mm			
383	♂	<i>Akodon cursor</i>	+ tissue L&Z	199-98-27-22 = 30 grams
384	♂	non-scrotal; t=1x6mm; sv=6mm	"	204-94-29-20 = 41 grams
385	♂	non-scrotal; t=1x5mm; sv=	"	213-98-28-18 = 32 grams
386	♂	non-scrotal; t=6x4mm; sv=2mm	"	198-91-27-18 = 32 grams
387	♂	non-scrotal; t=4x2mm	"	178-86-27-17 = 29 grams
388	♀	vagina closed; scars	"	206-98-26-20 = 33 grams
389	♀	pregnant embryo OR-3L CR=30mm <i>Delomys d. collinus</i>	"	298-151-34-23 = 84 grams
390	♂	non-scrotal t=9x6mm sv=15mm <i>Oryzomys intermedius</i>	"	303-167-38-24 = 76 grams
391	♂	non-scrotal t=10x6mm sv=12mm	"	293-158-37-24 = 63 grams
fluid 392	♂	non-scrotal <i>Proechimys i. iheringi</i>	"	343-164-46-26 = 135 grams







E. B. Boracéia

Estação Biológica de Boracéia, 28 Km SE, 3 Km E

Biritiba-Mirim (by rd.), State of São Paulo, Brazil

23° 39' S, 45° 54' W, 850m.

29 July 1994

fluid	non-scrotal	+ tissue L <sub>N</sub> 2	
393	♂ <i>Akodon nigrita</i>	+ chromosomes	141-54-21-12 = 21.5 grams
+ part. skel.	Vagina closed; nulliparous	"	
394	♀ <i>Oryzomys intermedius</i>	+ chromosomes	295-158-36-24 = 68 grams

30 July 1994

+ part. skel.	Scrotal		
395	♂ <i>Acidilimanus microtarsus</i>	+ tissue L <sub>N</sub> 2	234-148-17-21 = 18 grams
"	Parous		
396	♀ <i>Didelphis aurita</i>	"	<del>234</del> -810-414-61-54 = 1317 grams
"	non-scrotal; t=8x5; <del>SV=10mm</del>		
397	♂ <i>Akodon cursor</i>	"	205-103-26-22 = 33 grams
"	vagina closed		
398	♀ "	"	185-89-26-20 = 25 grams
"	non-scrotal; t=15x8; SV=10mm		
399	♂ <i>Oxymycterus hispidus</i>	"	300-144-35-23 = <sup>115</sup> <del>150</del> grams
"	Scrotal; t=18x10mm; SV=22mm		
400	♂ <i>Delomys d. collinus</i>	"	280-147-32-24 = 71 grams
"	scrotal; t=16x10mm; SV=18mm		
401	♂ "	"	265-123-31-20 = 67 grams
"	scrotal; t=21x12mm; SV=19mm		
402	♂ "	"	283-134-32-19 = 59 grams
"	scrotal; t=20x10mm; SV=19mm		
403	♂ "	"	273-130-30-21 = 69.5 grams
"	non-scrotal; t=15x9mm SV=17mm + tissue L <sub>N</sub> 2		
404	♂ "	+ chromosomes	274-147-31-24 = 56 grams
"	scrotal; t=18x9mm SV=19mm	"	
405	♂ "	+ chromosomes	255-137-31-21 = 67 grams
fluid	♂ <i>Proechimys i. iheringi</i>	+ chromosomes	347 <sup>+</sup> -137 <sup>+</sup> -49-26 = 217 grams
fluid	♂ non-scrotal	"	
407	♂ "	+ chromosomes	374-180-48-25 = 201 grams

31 July 1994

+ part. skel.	vagina closed; scars		
408	♀ <i>Akodon cursor</i>	+ tissue L <sub>N</sub> 2	223-105-25-18 = 36.5 grams
"	♀ nulliparous	"	
409	♂ "	"	170-84-25-20 = 21 grams
"	non-scrotal; t=6x4mm SV=6mm		
410	♂ "	"	184-93-25-21 = 40 grams
"	nulliparous		
411	♀ "	"	185-93-25-20 = 24 grams
"	vagina closed; nulliparous		
412	♀ <i>Oxymycterus hispidus</i>	"	255-123-35-25 = 67 grams







E.B. Boracéia

Estação Biológica de Boracéia, 3 km E, 28 km SE Biritiba-Mirim (by rd.), Município de Salesópolis, State of São Paulo, Brazil, 23°39'S, 45°54'W, 850m.

July 31 1994

+ part. skel.	vagina closed; emb 2R-1L swelling = 7mm		
413	♀ <u>Delomys d. collinus</u> + tissue LN2	264 - 124 - 31 - 21 = 49grams	
"	vagina open; emb 1R-1L CR=15mm		
414	♀ " " "	267 - 142 - 31 - 20 = 52grams	
"	<del>embryo</del> vagina open; emb fresh scars OR-1L		
415	♀ " " "	270 - 138 - 31 - 23 = 58grams	
"	vagina closed		
416	♀ " " "	272 - 142 - 32 - 23 = 56grams	
"	vagina open; embryos = 2R-1L		
417	♀ " CR=12mm	251 - 131 - 30 - 21 = 48grams	
fluid	scrotal		
418	♂ " " "	279 - 144 - 32 - 22 = 66grams	
+ part. skel.	vagina closed; nulliparous		
419	♀ <u>Oryzomys intermedius</u>	290 - 160 - 33 - 25 = 67grams	
"	vagina closed; nulliparous		
420	♀ " "	290 - 155 - 32 - 25 = 63grams	
"	non-scrotal jt = 14x7mm; sv=12mm		
421	♂ <u>Nectomys squamipes</u>	380 - 195 - 46 - 25 = 145grams	
"	vagina closed; nulliparous		
422	♀ " "	375 - 191 - 51 - 24 = 150grams	
"	vagina closed; nulliparous + tissue LN2		
423	♀ ? + chromosomes	316 - 173 - 36 - 22 = 71grams	
fluid	vagina open		
424	♀ <u>Proechimys heringi</u> + tissue LN2	350 - 165 - 45 - 26 = 138grams	
+ part. skel.			
425	♀ <u>Marmosops incanus</u>	250 - 150 - 19 - 25 = 18g	
"	vagina closed; nulliparous + tissue LN2		
426	♀ <u>Rhipidomys mastacalis</u> + chromosomes	291 - 166 - 29 - 19 = 54grams	

~~July~~ August 3 1994

+ part. skel.	blueish testicles		
427	♂ <u>Gracilinanus</u> microtarsus + tissue in LN2	240 - 139 - 17 - 20 = 23g	
"	blueish testicles		
428	♂ " "	260 - 162 - 19 - 21 = 24g	
"	testes blueish		
429	♂ <u>Marmosops incanus</u>	338 - 199 - 23 - 29 = 46g	
alcohol	testes blueish		
430	♂ " "	317 - 188 - 21 - 25 = 41g	
+ part. skel.	marsupium not orange		
431	♀ <u>Philander opossum</u>	554 - 284 - 40 - 33 = 255g	
"			
432	♀ <u>Akodon cursor</u> + chromosomes	212 - 100 - 26 - 20 = 35g	
+ part. skel.	vagina closed; nulliparous		
433	♀ <u>Delomys sublineatus</u> + tissue in LN2	275 - 146 - 34 - 22 = 56g	
"	scr t=16x10 sv=15mm		
434	♂ " <u>dorsalis</u>	264 - 133 - 29 - 21 = 50g	







## E. B. Boracua

alcohol, 435	scr ♂ <u>Delomys dorsalis</u>	+ tissue LN2	290-148-33-22 = 79g
+part. skel 436	open vagina; embryo OL 2R CR=5mm ♀ " " "	"	271-146-33-23 = 52g
alcohol 437	closed vagina ♀ " " "	"	268-141-32-21 = 45g
+part. skel 438	nscr t=11x7mm SV=15mm ♂ <u>Oryzomys intermedius</u> chromosomes	"	309-162-33-24 = 81g
4 August 1994			
+part. skel. 439	bluish testicles ♂ <u>Marmosops incanus</u>	+ chromosomes + tissue LN2	318-186-24-29 = 44g
alcohol 440	open vagina ♀ <u>Delomys dorsalis</u>	+ tissue LN2	267-137-30-23 = 44g
<del>part. skel</del> 441	nscr ♂ <u>Akodon nigrita</u>	+ tissue LN2 + chromosomes	144-49-20-11 = 21g
+part. skel. 442	nscr; t=11x6mm SV=14mm ♂ <u>Delomys sublineatus</u>	+ tissue LN2	252-120-29-21 = 50g
" 443	closed vagina; nulliparous ♀ <u>Nectomys squamipes</u>	"	361-192-51-23 = 115g
" 444	nscr; t=10x6mm; SV=12mm ♂ <u>Oryzomys intermedius</u>	"	323-169-38-24 = 77g
5 August			
+part. skel 445	nscr t=4x1mm ♂ <u>Akodon nigrita</u>	+ tissue LN2	133-47-19-11 = 20g
alcohol 446	open vagina; mammae visible ♀ <u>Delomys d. collinus</u>	+ tissue LN2	253 <sup>+</sup> -105 <sup>+</sup> -30-25 = 64g
" 447	open vagina; mammae visible ♀ " " " "	"	279-136-31-23 = 51g
" 448	closed vagina; mammae visible ♀ " " " "	"	268-128-31-23 = 53g
" 449	scr ♂ <u>Nectomys squamipes</u>	"	437-221-54-24 = 195g
" 450	closed vagina ♀ " " "	"	421-219-50-25 = 200g
" 451	nscr ♂ <u>Oryzomys intermedius</u>	"	262 <sup>+</sup> -110 <sup>+</sup> -38-25 = 76g
" 452	scr ♂ " " "	"	284-153-36-23 = 65g
" 453	nscr ♂ " " "	"	300-156-37-26 = 70g
" 454	closed vagina ♀ " " "	"	300-155-38-23 = 63g
" 455	scr ♂ " " "	"	293-148-37-24 = 63g
+part. skel 456	scr t=9x6mm; SV=14mm ♂ " " "	+ chromosomes	312-158-38-25 = 75g
alcohol 457	closed vagina; <del>embryo</del> ♀ " " "	+ chromosomes	265 <sup>+</sup> -123 <sup>+</sup> -36-27 = 68g
+part. skel 458	closed vagina; nulliparous ♀ " " "	+ chromosomes	both ears missing piece 340-179-37-26 = 86g







E. B. Boracéia

Estação Biológica de Boracéia, 3 km E, 28 km SE Biritiba-Mirim

(by rd.), Mun. Salesópolis, St. São Paulo, Brazil, 23°39'S, 45°54'W

850m.

5 August 1994

+part. skel. 4589	nsr t=9x4mm sv=2mm +chromosomes	
alcohol 460	♂ <u>Rhipidomys mastacalis</u> + tissue LN2	288-166-29-20=48g
	♂ scr " " "	318-174-30-20=82g
+part. skel. 461	nsr; juvenile; t=15x10mm sv=13mm	
alcohol 462	♂ <u>Proechimys i. iheringi</u> + tissue LN2	349-164-44-25=135g
	♂ nsr " " "	404-190-48-27=225g
alcohol 463	vagina open ♀ " " "	374-171-45-25=175g
alcohol 464	♀ <u>Marmosops incanus</u> + chromosomes + tissue LN2	273-166-19-27=23g

6 August

alcohol 465	nsr ♂ <u>Delomys dorsalis</u> + tissue LN2	264-140-32-23=47g
	scr ♂ " " "	256-133-31-23=68g
	scr ♂ " " "	271-148-33-22=51g
	scr ♂ " " "	288-150-32-21=72g
	nsr ♂ <u>Oryzomys intermedius</u> -	303-158-36-25=64g

7 August

alcohol 470	bluish testicles ♂ <u>Marmosops incanus</u> + tissue LN2 and alcohol	287-176-22-26=30g
	♀ " " "	278-170-20-23=23g
	♀ " " "	269-164-20-25=22g

Fazenda São José da Serra, 6 km E, 9.2 km N (by rd.)

Bonsucasso, Município de Sumidouro, Serra de Paqueta,

State of Rio de Janeiro, Brazil, 22°12'S, 42°44'W, 1000m.

15 August

473	vagina closed ♀ <u>Akodon cursor</u> + tissue LN2 + chromosomes	161-71-25-19=21g
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## Sitio São José da Serra

— vagina closed + tissue LN<sub>2</sub>  
474 ♀ Mus musculus + chromosomes 155-66-25-19 = 19g

## 16 August

+part. skel. ♀ Marmosops incanus + tissue LN<sub>2</sub>  
475 + chromosomes 278-161-21-21 = 27g  
" nscr; T=8x4 SV=6  
476 ♂ Akodon cursor + tissue LN<sub>2</sub> 186-91-26-189 = 27g  
" closed vagina + chromosomes  
477 ♀ Akodon nigita + tissue LN<sub>2</sub> 121-45-21-11 = 15g  
" nscr T=11x6 SV=10  
478 ♂ Delomys sublineatus + tissue LN<sub>2</sub> 234-106-30-20 = 59g  
" closed vagina; mammae visible + chromosomes  
479 ♀ " nulliparous + tissue LN<sub>2</sub> 219-97-30-22 = 55g  
" nscr T=10x6 SV=9  
480 ♂ Echimys sp. " 327-180-38-13 = 155g

## 17 August

+part. skel. testicles white + chromosomes  
481 ♂ Marmosops incanus + tissue LN<sub>2</sub> 332-193-24-22 = 48g

## 18 August

+part. skel. closed vagina  
482 ♀ Akodon cursor + tissue LN<sub>2</sub> 192-88-27-20 = 28g  
" nscr + chromosomes  
483 ♂ Akodon nigita + tissue LN<sub>2</sub> 135-48-21-12 = 20g  
+part. skel. nscr t=4x1mm  
484 ♂ " + tissue LN<sub>2</sub> 134-41-20-11 = 19g  
" closed vagina; nulliparous  
485 ♀ " 135-51-21-11 = 17g  
" nscr t=10x6; SV=12mm + chromosomes  
486 ♂ Delomys sublineatus + tissue LN<sub>2</sub> 260-126-32-25 = 61g  
" nscr t=10x6mm  
487 ♂ Proechimys i. bonafidei + tissue LN<sub>2</sub> 356-171-49-22 = 160g

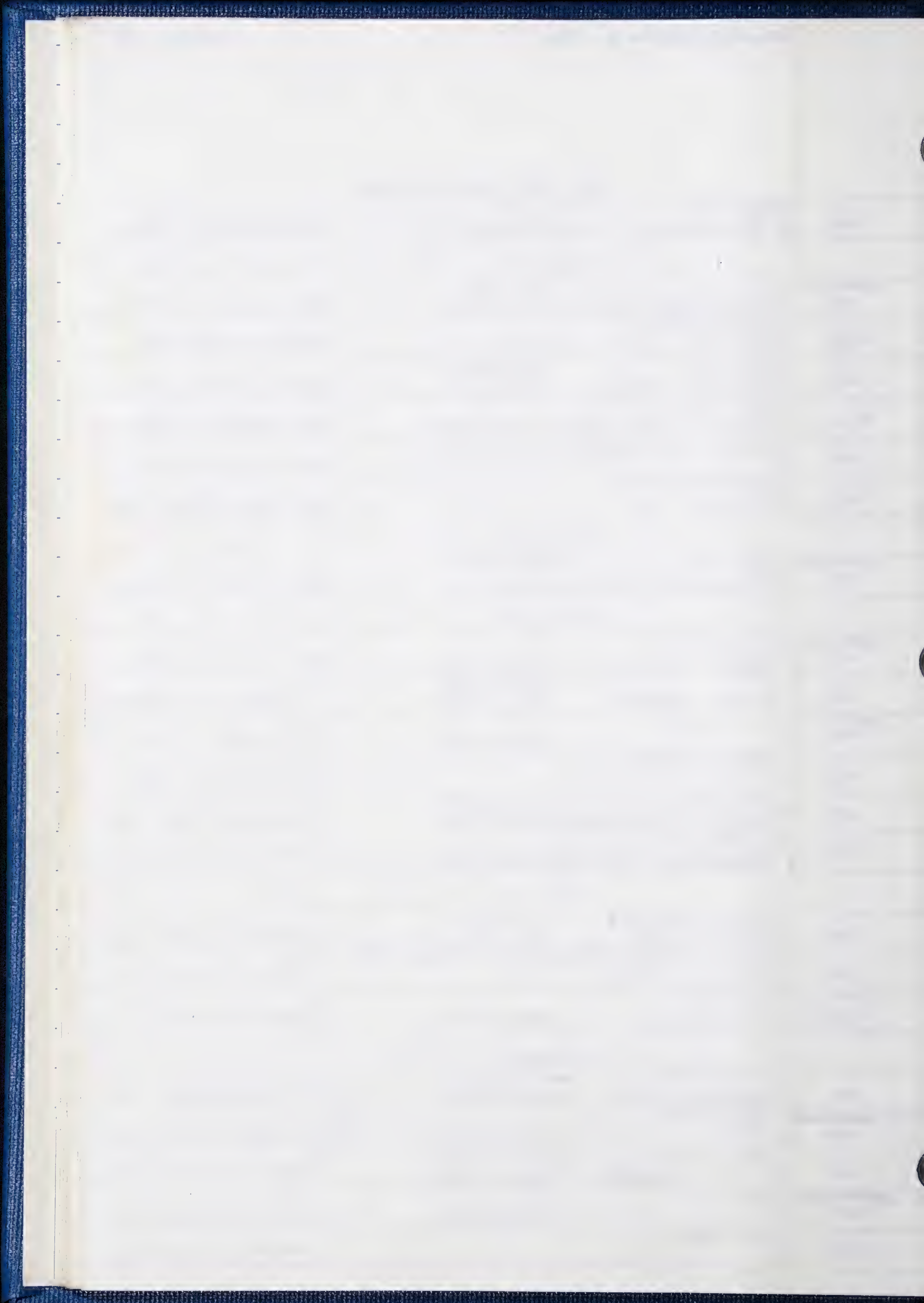
## 19 August

— vagina open; nulliparous + chromosomes  
488 ♀ Akodon cursor + tissue LN<sub>2</sub> 179-82-25-18 = 24g  
— vagina closed; full of endoparasites (citr); parous  
489 ♀ " " 196-90-28-20 = 36g  
+part. skel. closed vagina  
490 ♀ " + tissue LN<sub>2</sub> 199-90-27-19 = 34g

## 20 August

— scr T=9x6 SV=8 + chromosomes  
491 ♂ Akodon cursor + tissue LN<sub>2</sub> 132-48-20-12 = 17g  
alcohol ~~part. skel.~~ vagina closed.  
492 ♀ " + tissue LN<sub>2</sub> 225-101-26-19 = 47g  
" nscr; t=3x2mm + chromosomes  
493 ♂ " nigita + tissue LN<sub>2</sub> 193-90-27-22 = 27g  
alcohol ~~part. skel.~~ nscr  
494 ♂ " + tissue LN<sub>2</sub> 156-57-21-12 = 24g  
" vagina closed  
495 ♀ " 150-53-20-12 = 20g







## Sítio São José da Serra

Sítio São José da Serra, 6 km E, 9.2 km N (by rd.) Bonsucesso,  
Mun. Sumidouro, Serra do Paqueguê, State of Rio de  
Janeiro, Brazil, 22°12' S, 42°44' W, 1000 m.

alcohol

496

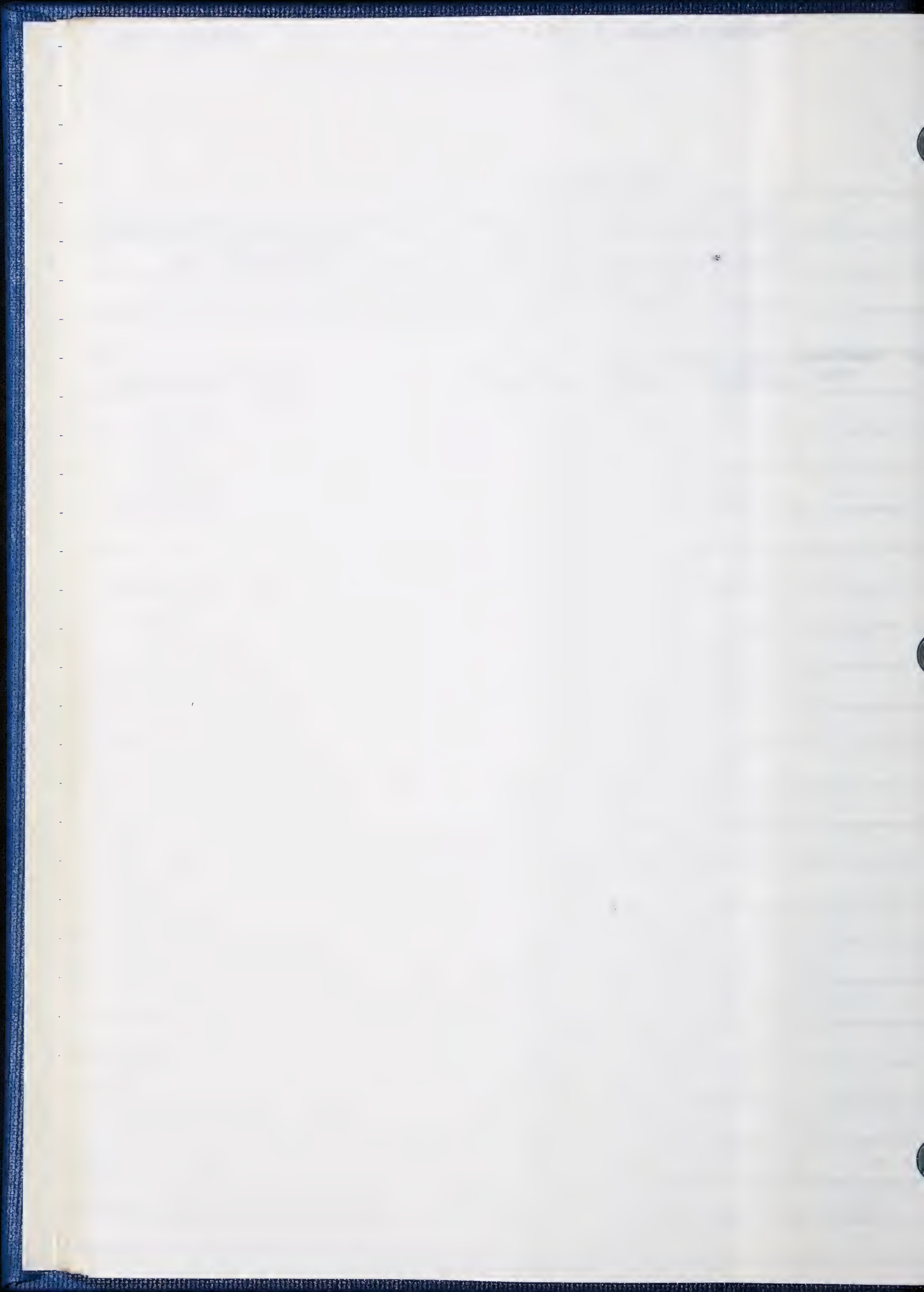
vagina dorsal

♀ Akodon nigrita

+ tissue LN2

133-47-20-12 = 14g







M.A. Mustrangi

BRAZIL

1992

Journal

Fazenda Intervalles, Capão Bonito - SP

Ilha de São Sebastião - SP







## Fazenda Intervalos - SP Brazil

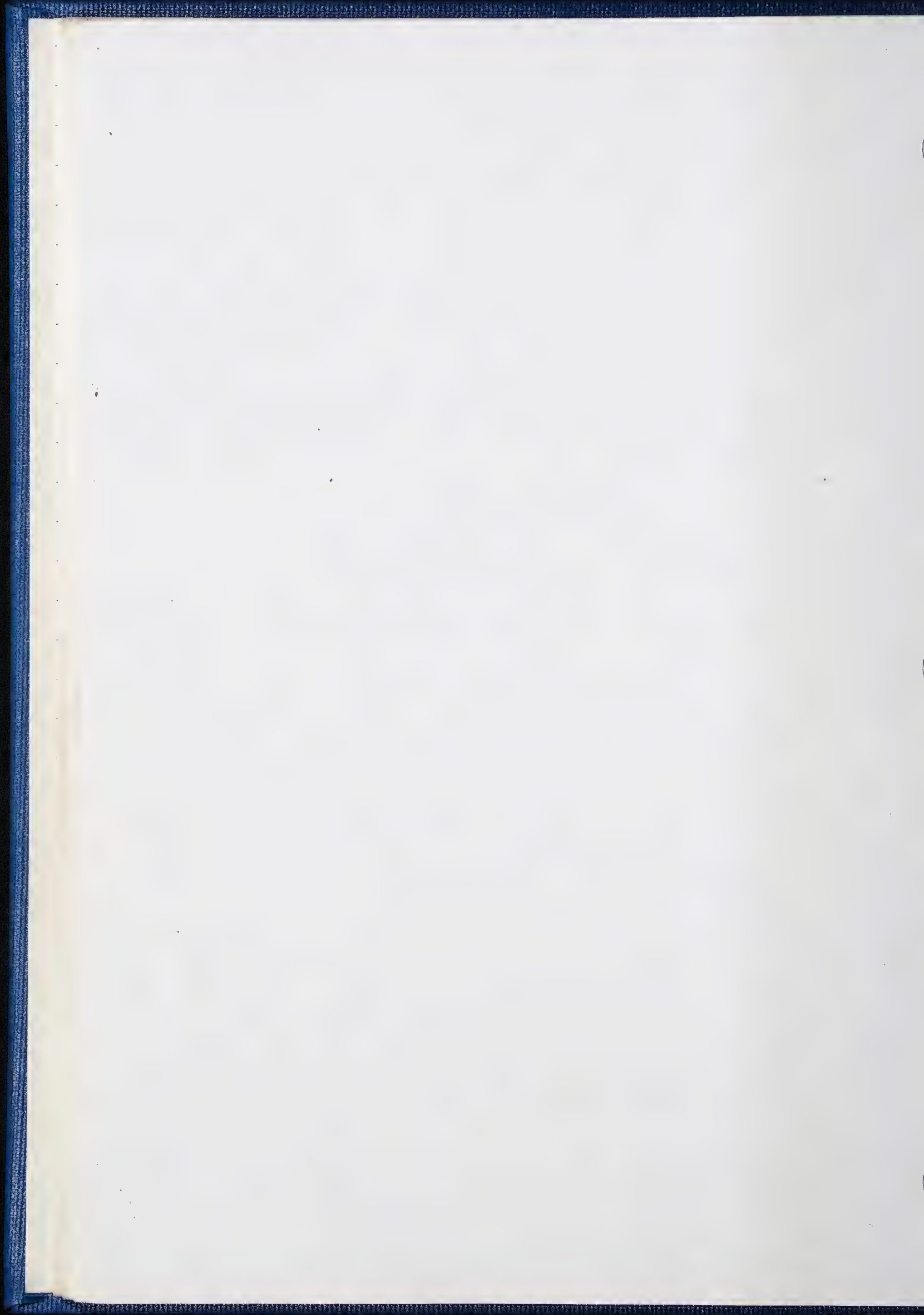
17 July (Fri)

We left São Paulo heading for the Fazenda Intervalos, a State reserve close to the border with the State of Paraná. We are: Nicoletta Moracchioli, Maia Victoria F. Thompson, and myself. From São Paulo to Intervalos one takes Rodovia Castelo Branco (SP 280) and turns on SP-127 (or 129), which is the exit to Tatuí/Itapetininga. SP 127 links Sorocaba and Capão Bonito. From Capão Bonito there is a paved road to Ribeirão Grande, and then a 25km-stretch of unpaved road to the headquarters of Intervalos. The whole drive takes about 4 hours.

Fazenda Intervalos is managed by the Fundação Florestal and activities in the reserve include research and ecotourism. It has an area of 38 000 ha and links 3 other parks: Parque Estadual Turístico do Alto Ribeira (PETAR), Parque Estadual de Carlos Botelho, and Reserva Estadual do Xitúé, summing up to 120,000 ha.

A car brought Jair Paiva (monitor) and myself to the Carmo Station. Nicoletta and M. Victoria stayed at the headquarters. The Carmo Station is 10km away, in an area of primary growth forest. There is a group of 25 Brachyteles arachnoides here. This station is reserved for researchers only. Tourists may stay at the headquarters, at Barra Grande, or at Saibadela. Besides the road, there are 3 trails: Carmo Acima (parallels the Carmo River, 3 km long); Figueira (4 km); and







## Fazenda Intervalos - SP Brazil

Rancho Queimado trail (10km, but not kept clean). The house lies by the Carmo River. There is no electricity. We are supplied with food and basic needs (gas, etc.), there is no fee whatsoever for researchers. In return for the use of these resources we train the monitors in our expertise, report our results to the Fundação Florestal, donate copies of slides, etc...

After we unpacked, we went for a walk along the Carmo Acima trail and then along the road. We didn't see a creature. We set 2 Tom by the river.

I brought 75 Tomahawks traps and 125 Shermans. For bait I bought oatmeal, raisins and peanuts (raw) in São Paulo, and lots of bananas in Capão Bonito.

I set a Sherman on the floor in the kitchen.

18 July (Sat.)

We caught an Oryzomys in the Sherman in the kitchen. I'm keeping it alive in a Tomahawk. The 2 Tomahawks by the river were open and w/ food. We set 110 traps (45 Tom + 65 Shermans) on the Carmo Acima trail ( $\pm$  2km stretch). All traps are set up in the trees (1.5m - 2.5m high), except for the last 2 Tomahawks, that were set on the ground, and a few traps that were set on fallen logs. Today's bait: bananas smashed with oatmeal, raisins and peanuts. We use small bungee cords to tie the







Fazenda Intervalo - SP Brazil

traps to the trees.

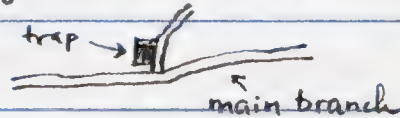
19 July (Sun)

The Oryzomys caught the other night escaped from the Tomahawk!

Carmo Acima trail capture:

① Rhipidomys in Tomahawk, set on bamboo that crosses the trail (not a bambuzal), 2m high, many fallen trees/branches around.

② Graciliānus in Sherman set 1m high on a bamboo (bambuzal); trap set in T fork



③ <sup>Micoureus</sup> ~~Satanomys~~ in Sherman (MNFS 43), 2.0m high on a thin branch crossing trail (diameter  $\approx$  3cm)

④ Proechimys (Tom 44 on the ground); was dying when we got there

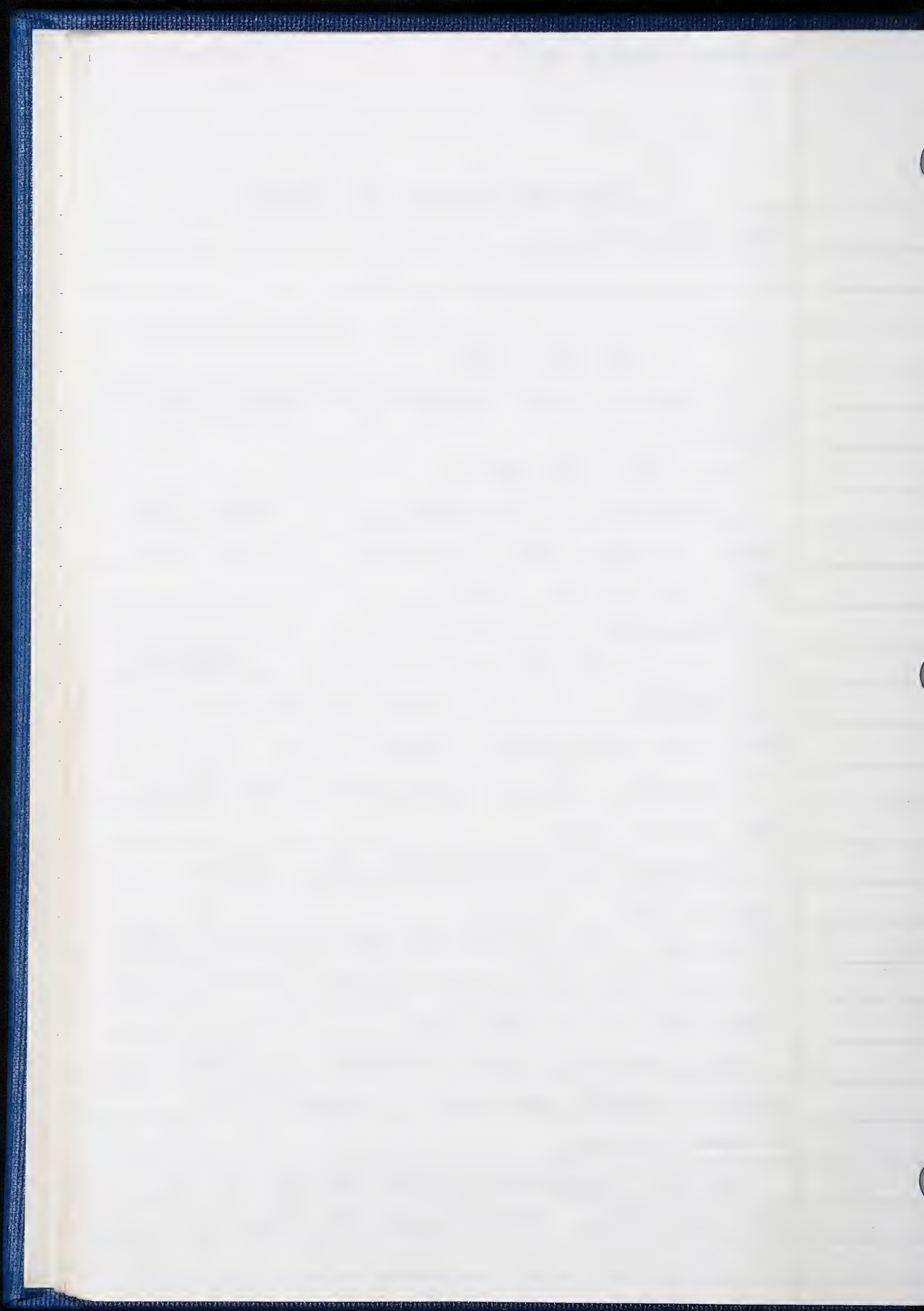
⑤ Marmosops (JLP 6) 1.8m high, over a thick, inclined trunk

→ ⑥ Oryzomys (JLP 11) on big tree fallen over trail, covered by lianas, trap set at 1.5m from ground. Animal defecated all over inside trap.

birds observed on Carmo Acima trail: a mixed group w/ papamosa and mione; a group of saira; a troço surucura

We met a (probable) Bothrops basking on the trail at 11:30 am. It was around 1.0 m long.







## Fazenda Intervaler - SP Brazil

In the afternoon we set 22 Tomahawks and 38 Shermans on Figueira Trail.

The 2 traps by the Carmo River were open, w/ food.

20 July (Mon)

Tomahawks by the river empty again. It's a bit surprising since there's a lot of 'good habitat'. (= bambu-  
zal). Bait (banana smashed w/ oat meal) hadn't been replaced since 1st night. Today I removed both traps.

We caught an Akodon in the Sherman at home (bait = banana).

Carmo Acima traps:

① Delomys dorsalis (Tom 44) on the ground. Trap was dragged for 1/2 meter from place where it had been set. Jair thinks a hawk tried to get to the mouse. It was wounded on right shoulder. (this is the same place where we caught the Proechimys dying yesterday).

Bait on Carmo Acima traps was already 2 days old. We replaced it for every trap today, same bait as before (banana smashed w/ raisins and peanuts and oat meal).

Last night and early this morning I managed to revive some animals that were too cold. But some died later. → by putting them close to wood stove



*[Faint, illegible text, likely bleed-through from the reverse side of the page]*



Fazenda Intervale, - SP Brazil

Figueira Trail:

- ① Rhipidomys (Tom 60) on a bamboo, 2.0m high
- ② Micoureus (MNFS 62) in a bush of 1.0m, w/ lianas and some ferns around; trap was set on a branch of 1cm of diameter; animal lost tip of its tail at trap door. (Shermans are a little small for these animals).
- ③ Gracilinanus (MNFS 75) at 0.5m from ground, on a branch of a little tree that lean horizontally.
- ④ Set 2 tomahawks at beginning of Carmo Acima Trail; 2 'good spots' w/ probable nests above in the trees.

21 July (Tue)

We didn't catch anything at home today.







Tue 7/21/

Fazenda Intervalas - SP BRAZIL

We didn't catch anything at home (Sherman w/ banana on the floor) again today.

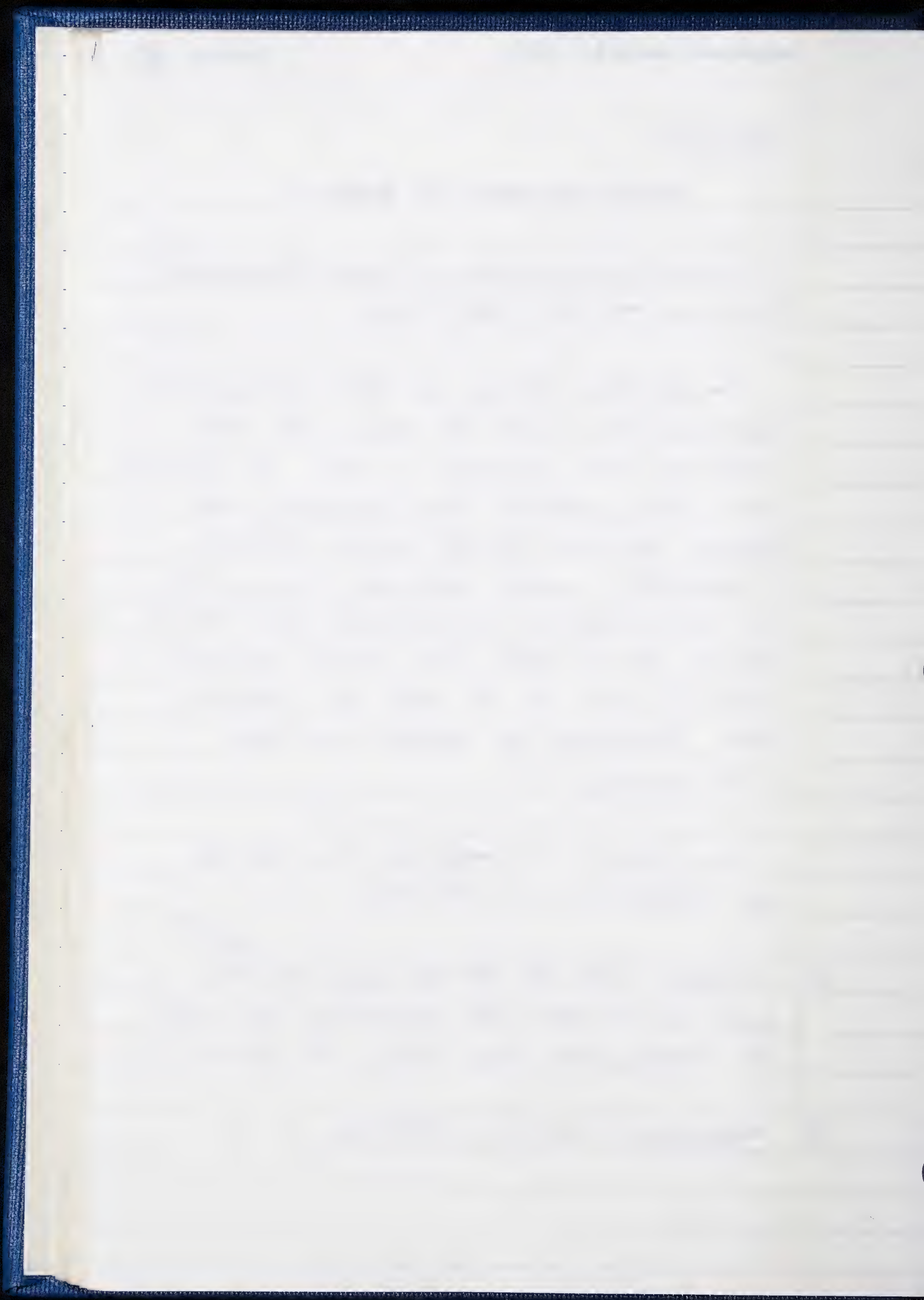
The weather warmed up ( $25^{\circ}\text{C}$  at noon, as opposed to  $20^{\circ}\text{C}$  on the last days; and  $12^{\circ}\text{C}$  inside the house as opposed to  $8^{\circ}\text{C}$ ). The animals are all fine, except for the Marmosops and Delomys that were not well already yesterday. A Gracilianus caught yesterday (so small it can escape through the Tomahawk wire mesh!) was too cold at night (was outside blanket), started to revive w/ hot water but eventually died. Marmosops and Delomys were dead in the morning.

Carmó Acima: We ~~put~~ put (not replaced, just added) banana to all traps.

① Didelphis (Tom 103) (Whitish type) It is <sup>almost</sup> too small for this trap! Was wounded on the head. was sleeping when we got there. We released it.

② Marmosops (MNF 3) bamboo, 1.6m alt.







Tue 7/21 cont

Fazenda Intervalo - SP BRAZIL

③ Rhipidomys (MNFS 11) (brought in the trap)

1.5m high, bambuzal crossing trail, lost tail tip on door of trap (1.5cm).

④ <sup>Micoureus</sup> ~~Rhipidomys~~ (MNFS 22) 2.0m high, tree of 10cm  $\phi$ , <sup>not</sup> closed vegetation, some lianas around trunk

(Tom 23)

⑤ Oryzomys on fallen trunk, over trail. Animal was dying (?).

⑥ Oecomys (MNFS 41) 2.0m high, tree of 10cm  $\phi$  covered w/ thin lianas.

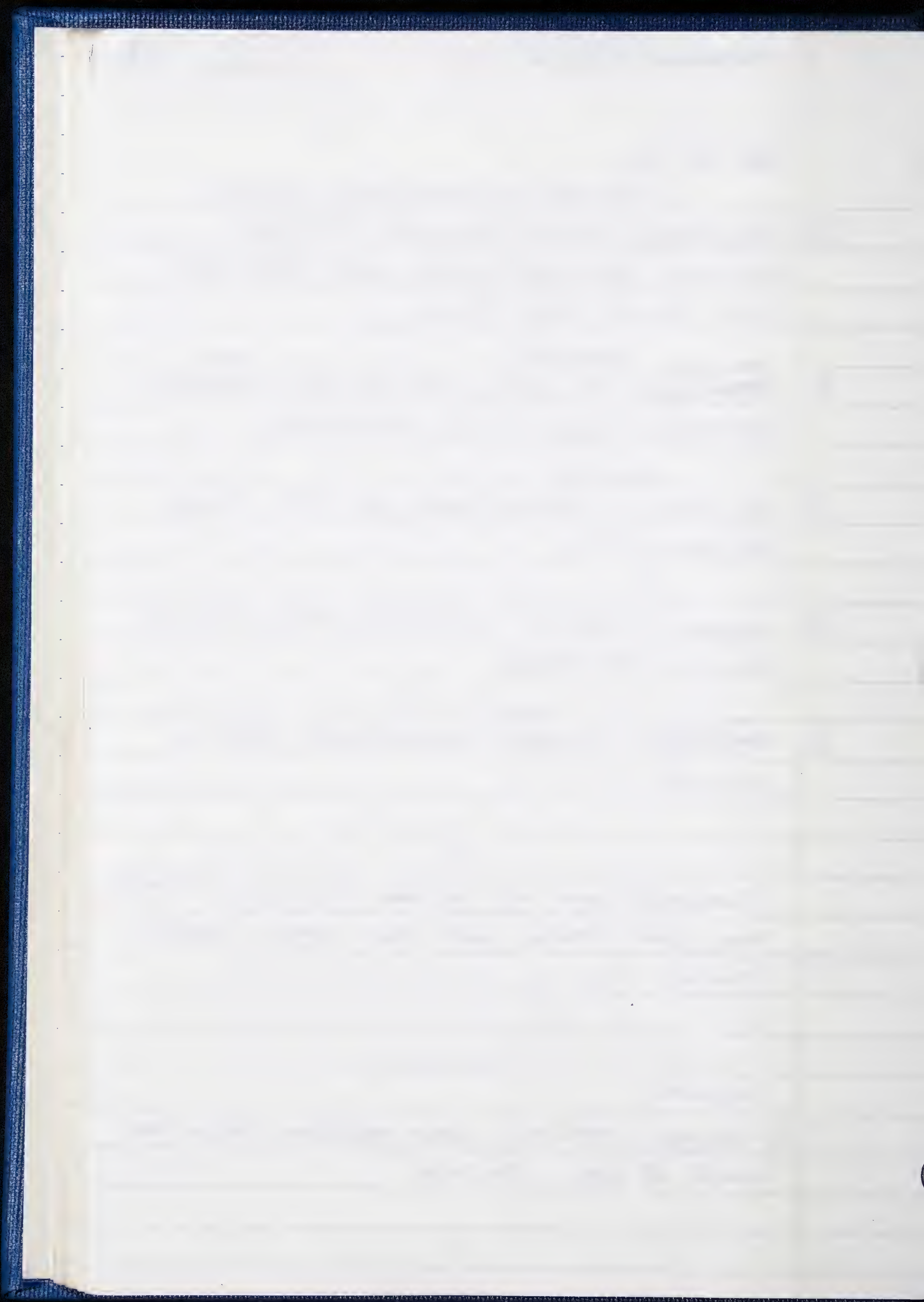
⑦ <sup>Micoureus</sup> ~~Rhipidomys~~ <sup>high</sup> 2.5m ~~at~~, tree of 10cm  $\phi$ , close to bambuzal

Came back home and pickled Marmosops (MAM 5) Gracilianus (MAM 6) and ~~Oryz~~ Delomys dorsalis (MAM 4)

Figueira:

① Oecomys (MNFS 47) closed vegetation, fallen trees 3cm  $\phi$  at trap, 1.5m high.







7/21

Fazenda Intervalo - SP BRAZIL

② Gracilanus (MNFS 50) bambuzal crossing trail,  
2.0m high, 3cm Ø at trap

③ Oryzomys ratticeps(?) (Tom 50) bambuzal,  
1.6m high, 4cm Ø at trap

!!! ④ <sup>Rhipidomys ♂</sup>  
~~Oryzomys~~ (2) (Tom 56) + Rhipidomys ♀  
tree fallen over trail, high, 2.0m alt, 6cm Ø  
they were side by side inside trap, dead (took picture)

⑤ <sup>Micoureus</sup>  
~~Oryzomys~~ (MNFS 61) brought w/ trap  
tree 3cm Ø, 2.0m ~~alt~~ high.

⑥ Rhipidomys (Tom 63) 1.5m high, 4cm Ø

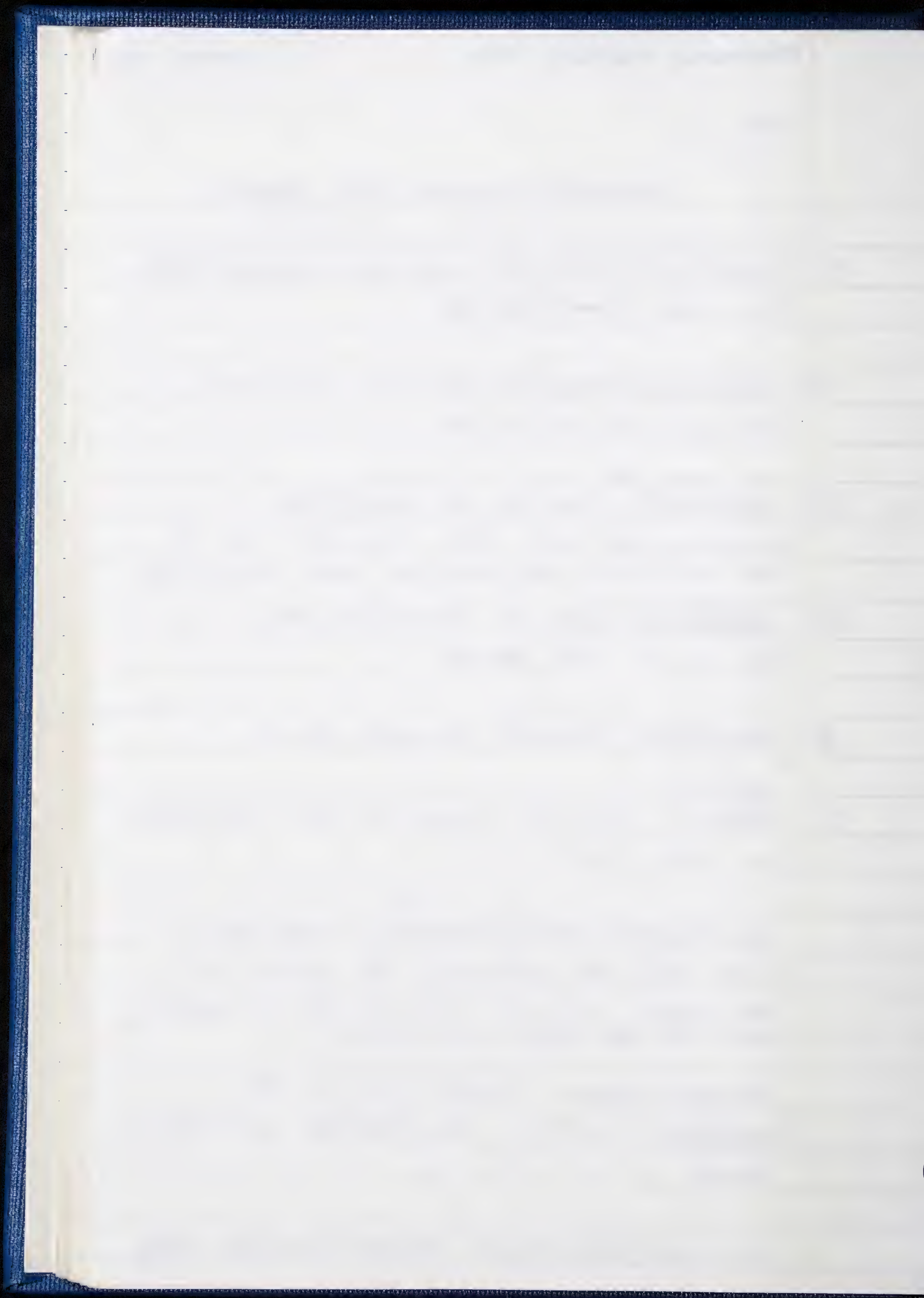
⑦ <sup>Akodon</sup>  
~~Oryzomys~~ (MNFS 60) brought w/ trap. bambuzal  
1.6m high, 7cm Ø

We dropped slice of banana in all traps.  
w/ new bait (but yesterday) we caught many  
more animals. We set the last 20 traps on Figueira +  
(total = 80 traps along ± 1700m of trail)

At home skinned Oryzomys (MAM 8) and  
Rhipidomys (MAM 7). SKH, skeleton and skull +  
tissue.

Up to now all animals skinned/pickled, died







7/21

## Fazenda Intervale - SP BRAZIL

naturally. They stayed for a while before I removed liver. I wonder how good it will be for DNA analysis.

We saw ♂, ♀ and young of Alouatta fusca moving through the canopy. midafternoon, on Figueira Trail (second encounter w/ these animals, the 1st time was on 7/17 walking along Camo Acima trail).

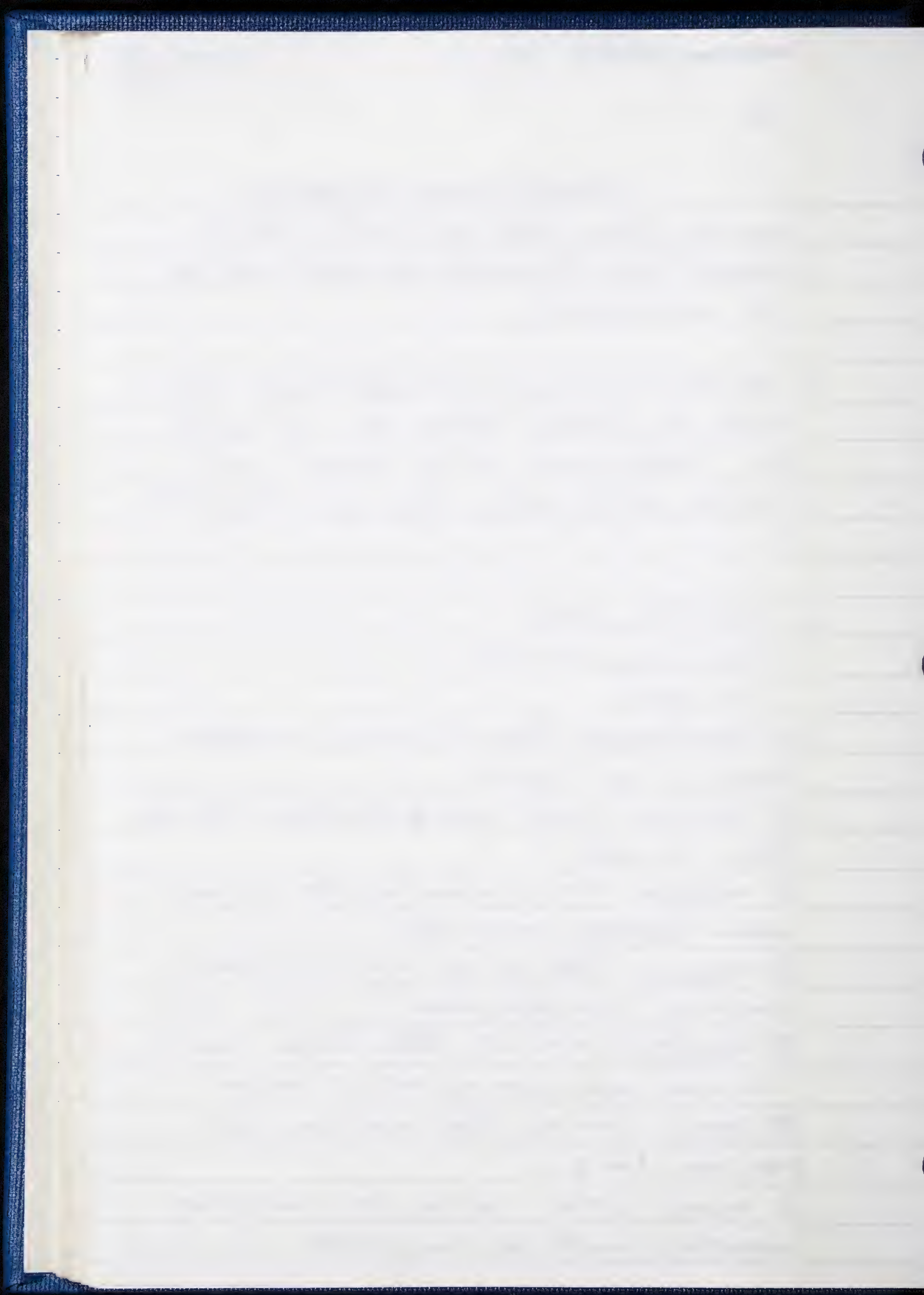
22 July (Wed)

nothing caught at home.

Camo Acima:

- ① Sciurus aestuans (Tom 2) 1m high, on a fallen branch of 12 cm of diameter
- ② Rhipidomys (Tom 8) on a ~~thin~~ thin trunk (4cm Ø) fallen over trail
- ③ Rhipidomys (Tom 19) → same trap where we caught another Rhipidomys on 1st night!
- ④ Proechimys (Tom 21) trap set on big log fallen across trail, 2.0m from ground
- ⑤ Rhipidomys (MNFS 23) fallen bamboo, 3cm Ø 1.5m high, lost 2.0 cm of tail at trap door
- ⑥ Oecomys (MNFS 43) fallen branch (over trail) 2.0m high, 3cm Ø.
- ⑦ Onychomys (JLP 14) 1.6m high, ferns, lianas, dense vegetation, branch has 3 cm diameter







Fazenda Intervale - SP Brazil

Banana from yesterday looks good still, we only rebaited traps that caught animals.

Figueira Trail:

① Philauder opossum (Tom 47) fallen tree, 10cm diameter, 30cm above ground.

② Marmosops incanus (MNFS 57) bambuzal crossing over trail, 2.0cm diameter, 2.0m high

③ Oecomys (MNFS 59) 2.0m high, branch 2.0cm

④ Akodon (MNFS 60) fallen tree of 6.0cm diameter 1.5m high

⑤ Gracilinanus (MNFS 75) fallen branches, 1.5m high

⑥ Gracilinanus (JLP 31) lianas 2.0cm, 1.5m high,

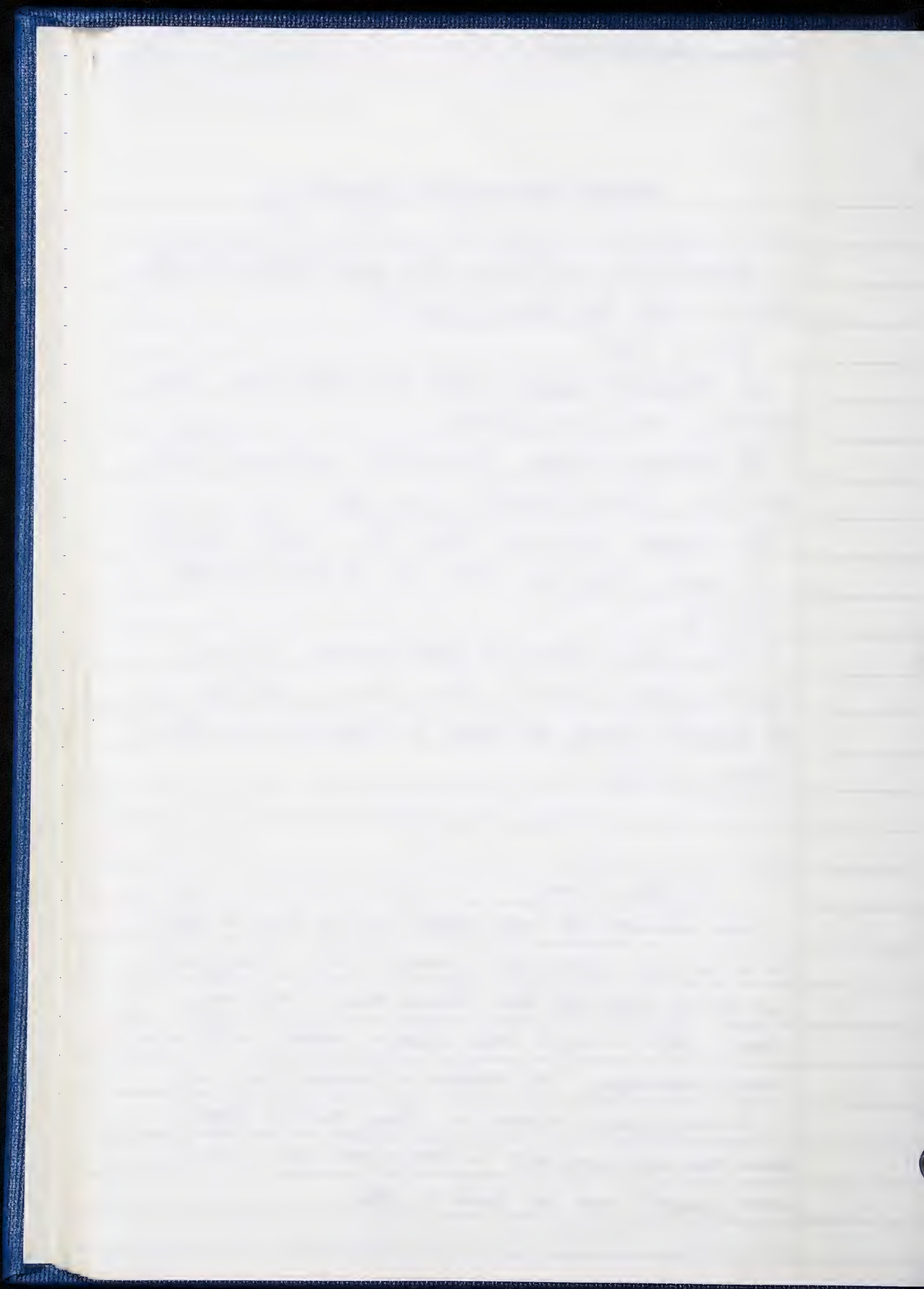
⑦ Onychomys dead on trail: attacked by, not eaten? close to JLP 43

23 July (Thu)

We removed all traps today. The car comes to pick us up tomorrow. Last night it rained a lot. A Micoureus got out of cloth bag and climbed around the living room. Its ability to climb up/down vertical surfaces is really something. It accepted a banana from me.

2 Rhipidomys escaped too. They couldn't climb down the same path that the Micoureus did. All 3 were caught and put back in bags.







Fazenda Intervale - SP Brazil

I recorded hissing by Philauder and Micoureus (which  
~~was~~ with another sound together w/ hissing).

Despite the rain we caught:

Carno Aema:

① Didelphis (Tom 103) again!!!, even though Jair  
had moved trap upwards, where thinner branches  
were.

② Oligoryzomys (MNFS 8)

③ Rhipidomys (MNFS 19) 3rd Rhipidomys at this  
station !!!

④ Micoureus (MNFS 38)

⑤ Marmosops (MNFS 40)

⑥ Akodon (JLP 1)

⑦ Gracilinanus (JLP 7)

Figueira trail:

① Gracilinanus (MNFS 48)

② Oligoryzomys (MNFS 59) dead

③ Rhipidomys (Tom 60) dead

④ Micoureus (MNFS 66)

⑤ Marmosops (MNFS 71)

⑥ Rhipidomys (JLP 26)

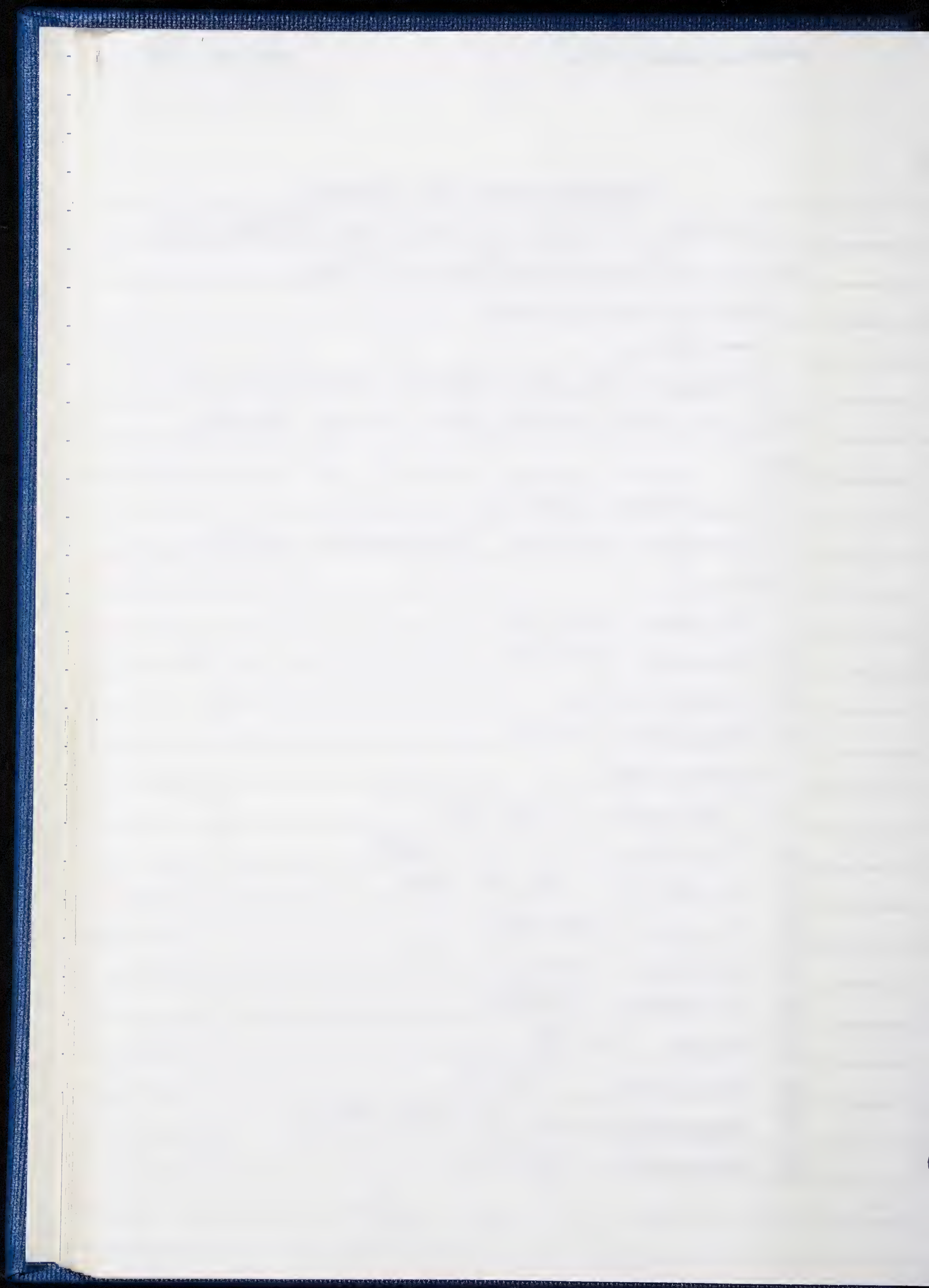
⑦ Akodon (JLP 27)

⑧ Gracilinanus (JLP 28)

⑨ Marmosops new sp (JLP 35) dead

⑩ Marmosops (JLP 46)







## Fazenda Intervale, - SP Brazil

Dalton had come 2x to Intervale, in Feb and April of this year and put 584 trapnights = (120 Tomahawk + 26 Shermans) x 4 nights). He had a success of 7%. He caught Nectomys, Akodon, Oryzomys, Onychomys, Oligoryzomys, Proechimys, Phyllomys and Metachirus, Marmosa, Didelphis. All traps on the ground. Bait = cooked corn, or banana + oatmeal + peanut butter.

I caught: 14 spp / 5 marsupials (1 new sp?)  
9 rodents

826 trapnights, 59 animals captured = 7% capture  
47 collected

days 24, 25, 26 → we left Carmo Station  
Fri (24 Jul) and spent rest of time preparing  
skins. Came back to São Paulo Mon 7/27

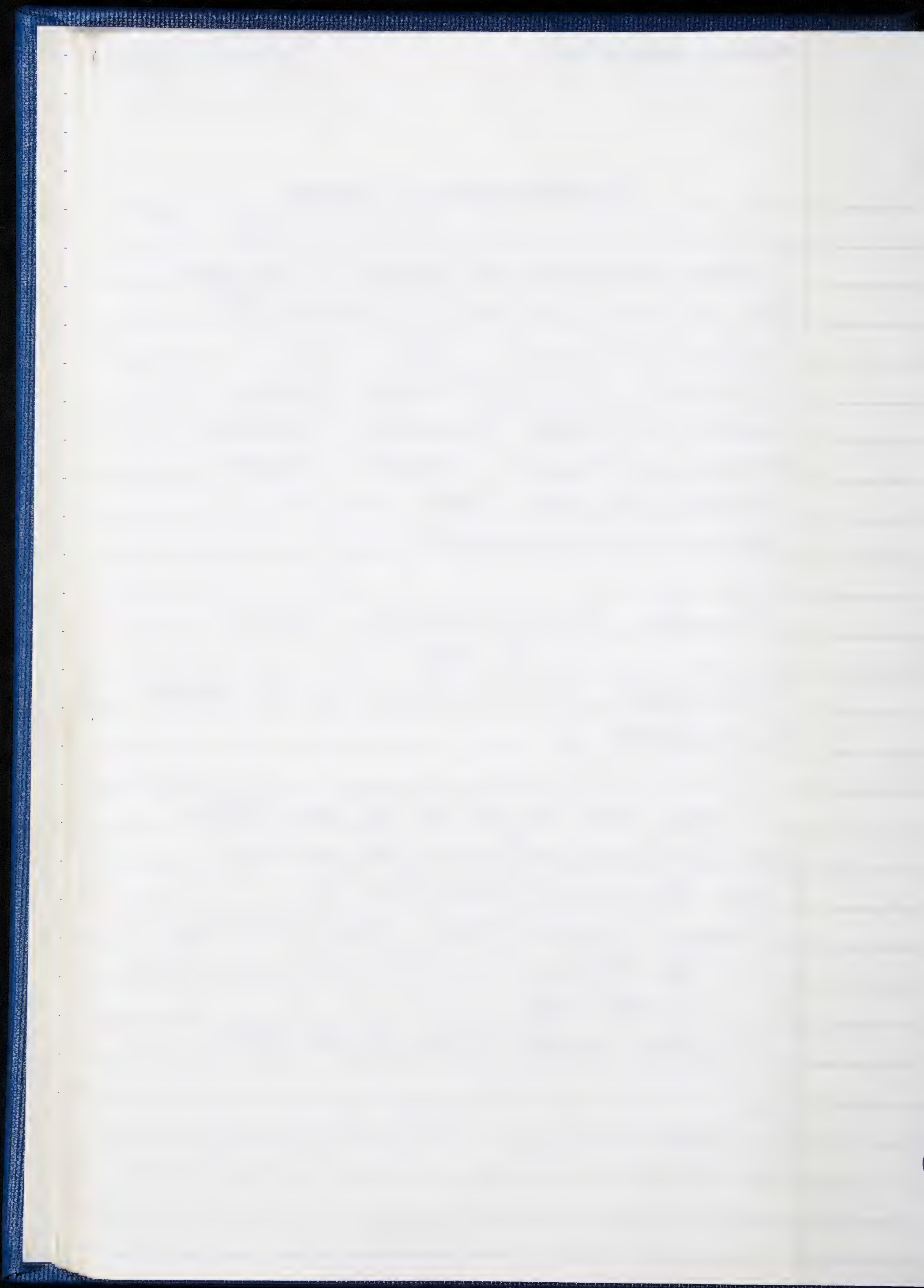
Transpen Guapira → São Paulo (stopping along way)

Cr \$ 37000.00

± 4 hours long

in São Paulo: arrives at Barra Funda station







## Ilha de São Sebastião - SP Brazil

4 August (Tue)

Márcia Lara and I left Rio de Janeiro (Niterói) this morning (10:30 am) heading for Ilha de São Sebastião, São Paulo State, 400 km South.

We took BR 101, Rio-Santos road, that winds beautifully along the coast. We arrived on the island at 5:00 pm, 6.5 hours of drive.

The day was sunny, what made it a very pleasant drive. As soon as we crossed the border between the State of São Paulo and Rio de Janeiro, we noticed an increase (significant) in the amount of forest (Atlantic tropical rainforest) left close to the road. It is probably due to the 'Parque Estadual da Serra do Mar', in São Paulo.

In São Sebastião one takes the 15' ferry-boat to Ilhabela. We found Luis Felipe Ferreira Brandão, Dr. Vanzolini's nephew, <sup>(director of Museu de Zoologia - USP)</sup> that lives here. He recommended 'Pousada da Kanoa', that lies close to the park. He also gave good suggestions about places to collect. Tomorrow we will go to meet 'Chico' = Secretário do Meio Ambiente of Ilhabela.

We brought 300 traps (between Tomahawks and Shermans). We'll select a place and start setting up traps as early as we can tomorrow.







## Ilha de São Sebastião - SP Brazil

Ilhabela is the little town on the Island of São Sebastião. São Sebastião (city) lies on the continent, across the channel. The island is mostly primary forest probably due to the fact that there is only one road, unpaved, (Estrada de Castellanos) that crosses the island. The population on the island, including most tourists, stays on the continental side, on a narrow stretch of land. (80% of the island is the State Park) <sup>= 27000 ha</sup>. Altitude varies from 0m to 1379 m (São Sebastião Peak). There are some old trails cut in the forest. There is no accommodations for researchers. Luis Felipe told us that poaching is very common, and the inhabitants hunt mammals and birds for play and food. The State Park was founded in 1977. The island is the biggest maritime island along Brazilian coast, w/ 33000 ha.

05 August (Wed) <sup>van</sup> François Sebroeck

We went to meet "Chico", Secretário do Meio Ambiente in Ilhabela. He lives at Fazenda da Toca, on Estrada de Castellanos. He offered that we set up our traps in his property. We would be safer than in the State Park, he said. Most of the area is forest, He showed us one of the trails. It cuts through (old) secondary growth forest, in an area with lots of





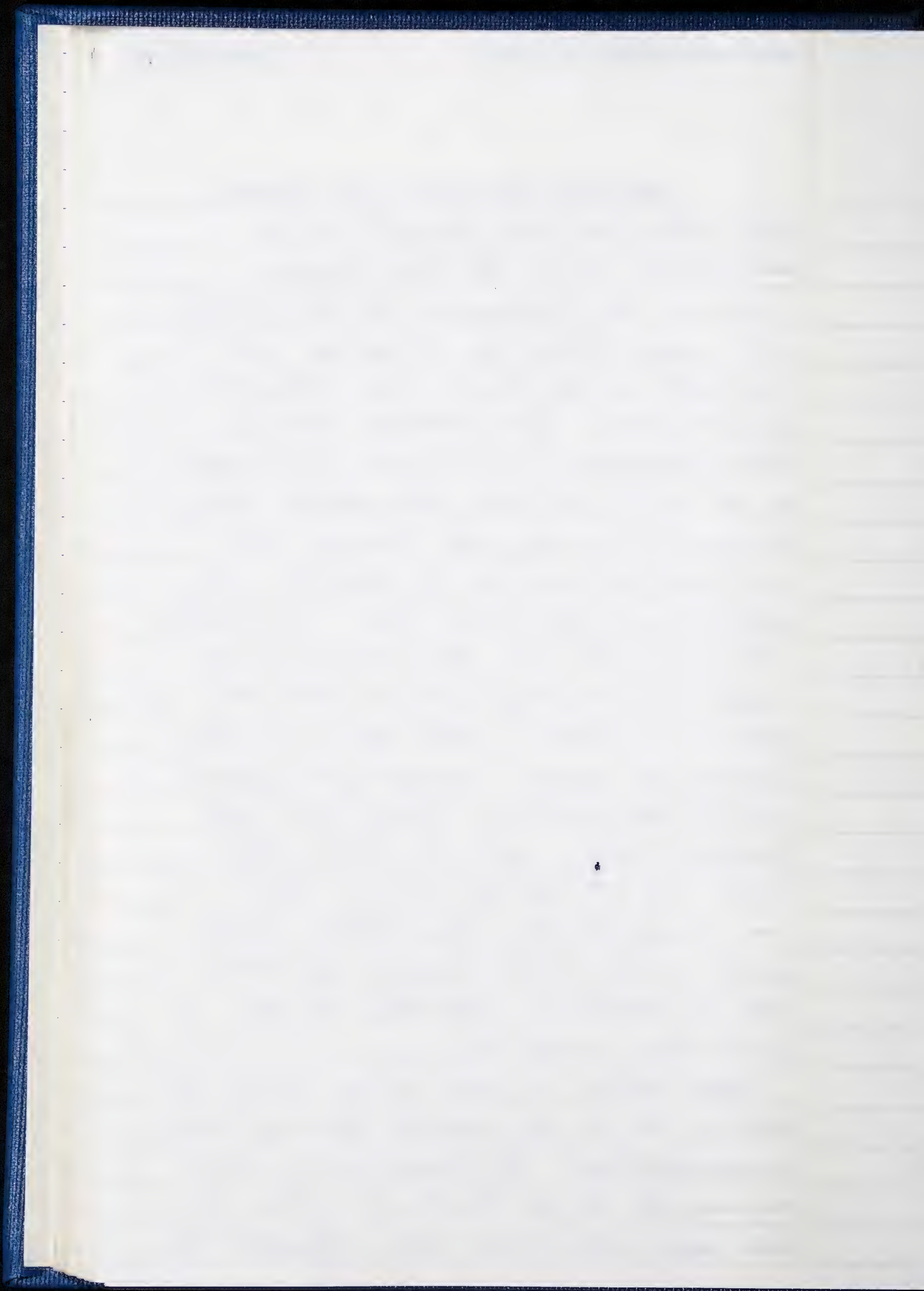


## Ilha de São Sebastião - SP Brazil

little creeks that cross the trail or go parallel to it. We set 106 traps, among Shermans and Tomahaws, in the following way: every station has 1 Sherman and 1 Tomahaw on the ground, and 1 Sherman up in the trees. Some stations have an extra Tomahaw up in the trees. Tree traps are set at  $\pm 1.8\text{m}$  high, with bungee cords. The forest is not very tall (canopy) and most trees are very thin in diameter. The understory is reasonably dense. We started setting up traps late, after talking to many people in the morning. We put these 106 traps in  $\pm 2$  hours. Bait was a slice of banana or manioc smeared with peanut butter and sometimes (1/3 or 1/2 of all Sherman traps) a piece of chicken (left overs). The 106 were set along a trail, on an approximately 1 km-stretch. Márcia found a frog (4.5 cm long) on the litter and we collected it (MAM 52). It was preserved in alcohol 70%.

After talking to Chico in the morning we went to talk to Sen Ademair (following Chico's recommendation). He knows a lot about the animals on the island, it seems. He had much work to do today, otherwise he







## Ilha de São Sebastião - SP Brazil

said he would gladly accompany us in our work in the forest. He could show us rats' nest, etc... He (and probably Luís Felipe) may come some other day.

The thermometer left outside our apartment at Pousada da Kanoa recorded a min of  $17^{\circ}\text{C}$  and a max of  $29^{\circ}\text{C}$  (!) today. (sun was hitting the thermometer.)

The day was cloudy, the sun appeared for a short time in the afternoon. Mosquitoes were not too bad in the forest. When we left, at 5:30 pm, the birds were singing wildly. I tried to record but my tape recorder got a lot of background noise.

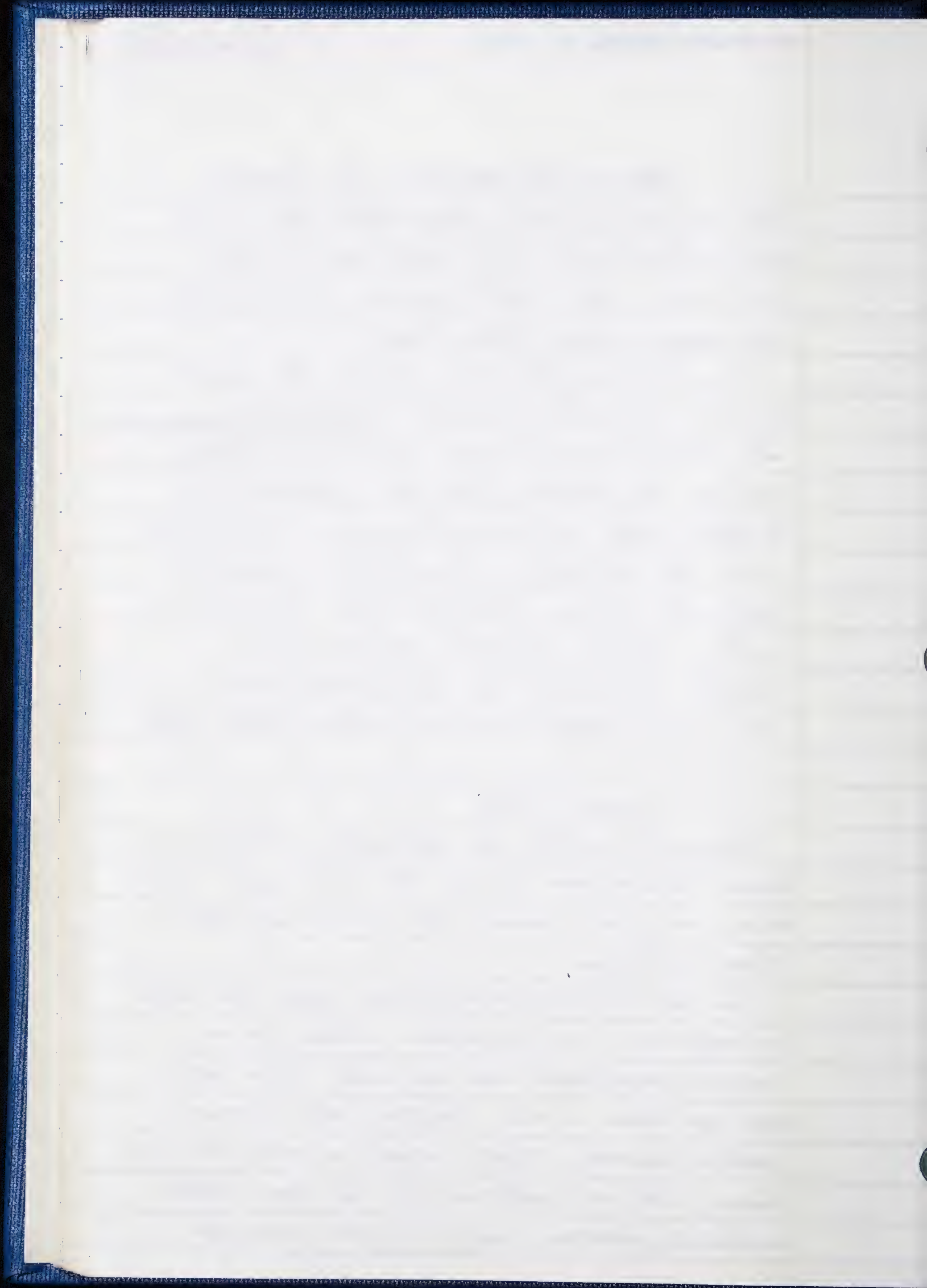
At home I took pictures of the little frog.

## 6 August. (Thu)

Temperature outside our apartment at Pousada da Kanoa ranged from  $17^{\circ}$  to  $21^{\circ}\text{C}$  last night. The day today was cloudy again, with a little sun and a little (light) rain.

We left early to check/set up traps. Last night we prepared a mix of oatmeal + water + peanut butter from which one can make little balls and use them as bait together with banana and/or manioc. That's what we used for bait today. We are continuing on the same trail we started yesterday, hoping to enter more and







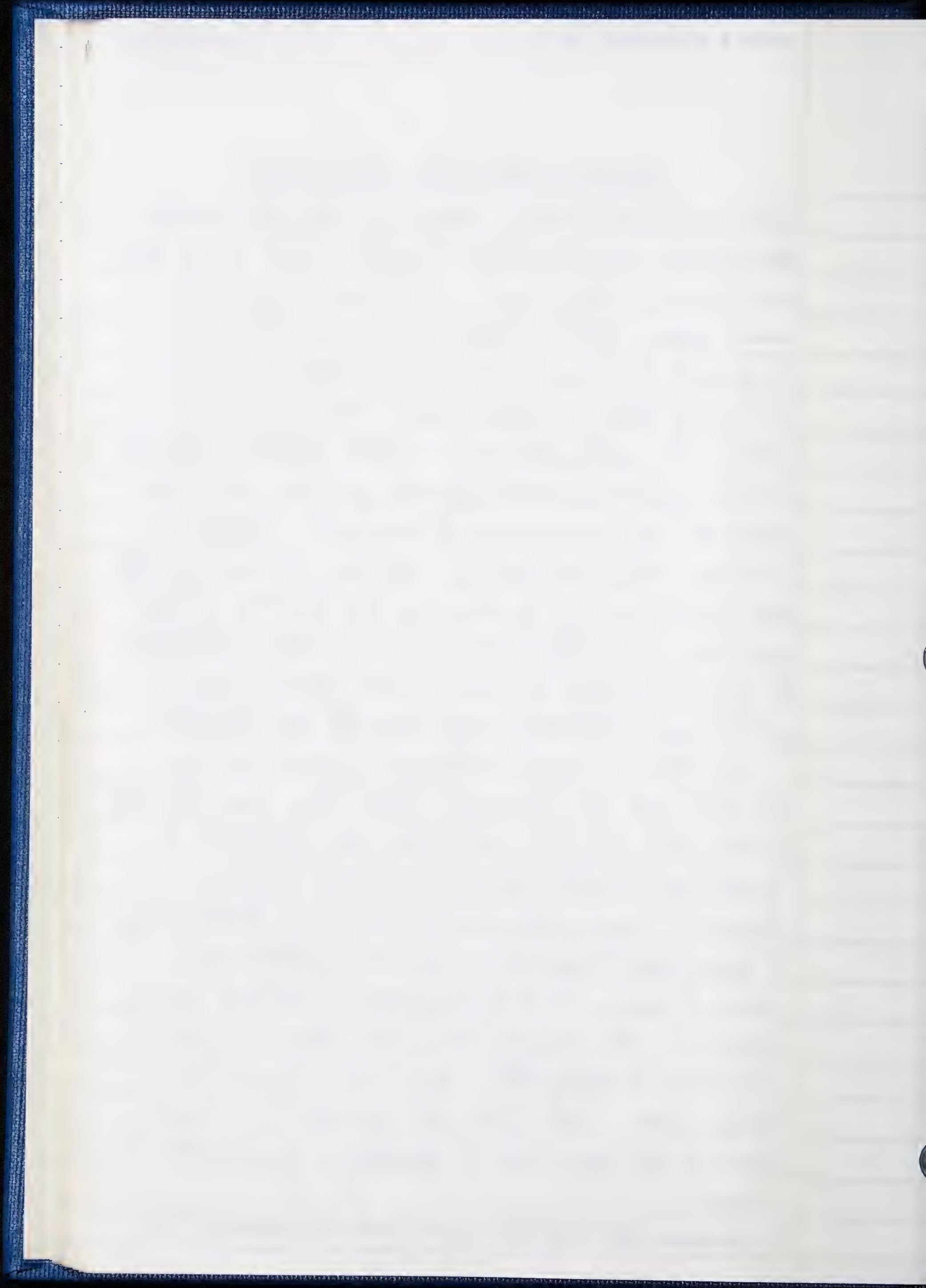
## Ilhabela Ilha de São Sebastião-SP

more large growth forest. There are some old banana plantations along the trail, and in some parts the forest looks really zany, with only thin and short trees. But in some other areas, the trees in general are bigger and the understory less dense. We heard from the locals that there are lots of 'little rats' and jaguatirica (Felis pardalis) around. Today we saw a small squirrel, just by our Tomahawk #1, at the beginning of the trail. "Marquinho" the guy that takes care of the bar at the Fazenda, has been helping us in carrying the bundles of traps across the river (just down from the falls 'Cachoeira da Toca' that gives the name to the farm). People in general are extremely nice here <sup>on</sup> the island.

We set 32 more Tomahawks (now there are 72 set) and 57 Shermans (now there are 123 set). In the 106 we set yesterday we caught: 8 Proechimys (on the ground or on logs, fallen); 2 Philander (one of them a small one in a Sherman!); 1 Monodelphis americana with the 3 dark stripes along its back; and 2 Oryzomys. Nothing was caught in the traps set up in the trees! I was certainly disappointed. But Chico, the owner of the farm, said there are 'guaiquicas', what seems to be some kind of Marmosa by his description.

At home we injected yeast into 2 of each of the







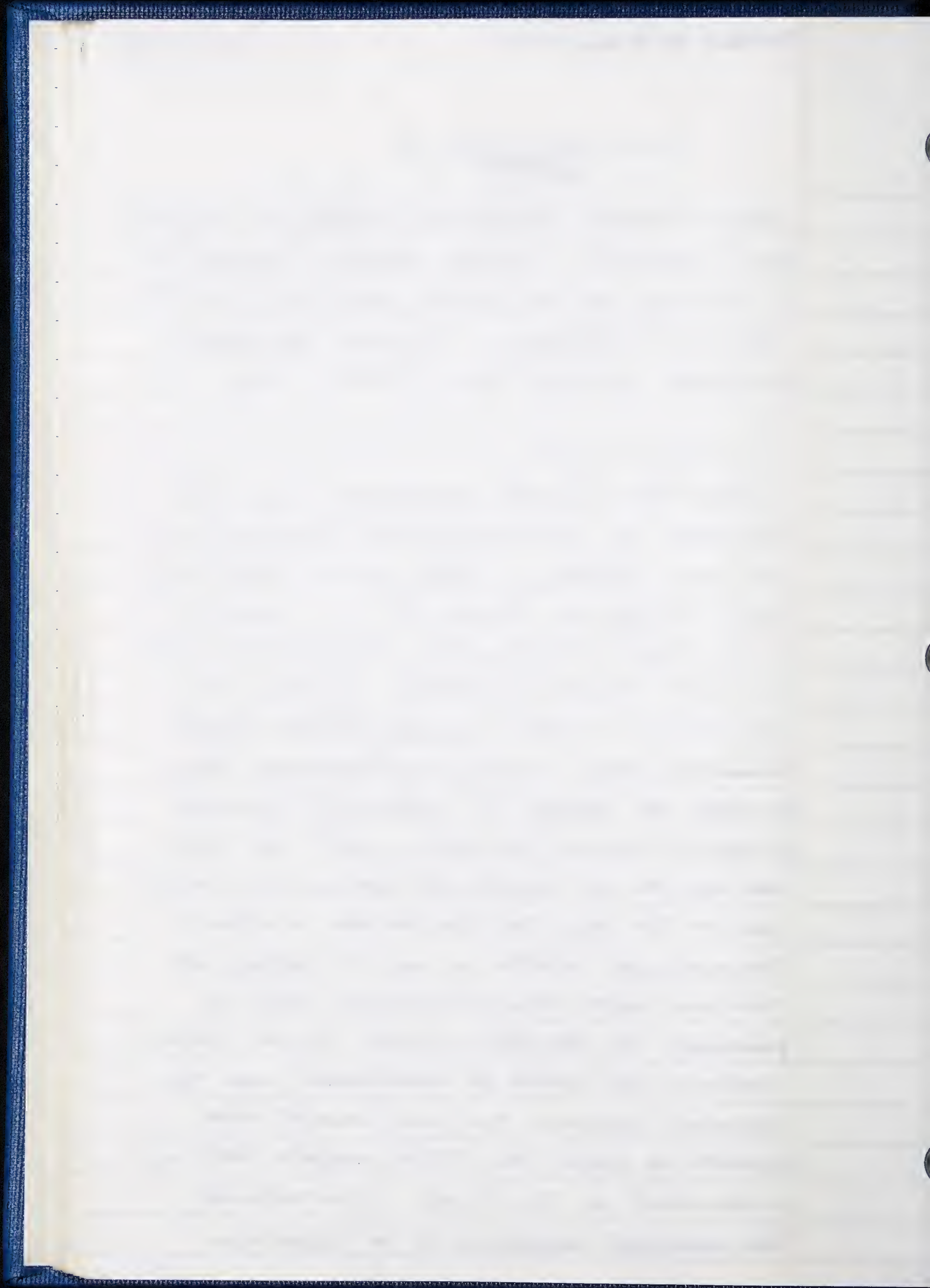
Ilha de São Sebastião - SP  
~~Ilha de São Sebastião~~

species we caught (2 Proechimys; 2 Philander; 1 Monodelphis; 1 Onychomys). The other Onychomys escaped from its cloth bag and was caught much later. We also skinned 2 Proechimys. All animals seem fine, in good shape. We gave them banana + manioc.

07 August (Fri)

Temperature last night ranged from 17 to 25°C. The weather has been pretty stable throughout our stay here in Ilhabela. Today we met Jean Pierre Marie Philippe van Sebreeck (family). [ Luiz Filipe F. Brandão; Rua Sebastião Jonas Vieira, 210, centro, Ilhabela, cep 11630-1; Secretaria do Meio Ambiente - Ilhabela: phone # 27 2200 (0124); Fazenda da Toca: 2.4 km E on Castelhanos Rd., 0.8 km NE (another rd.) Ilhabela ] We talked for almost an hour, he told us about the Park and how the old landowners have not yet been paid for the land that was turned into park. The park was created in the 70's so that all the land above 200m of altitude would be protected. He also told us about SUCEN (Superintendência de Controle de endemismos) and the 'biological' substance that was brought from Belgium to control the little mosquito that is so abundant on the island (= borrachudo). The biological substance is a bacterium.







## Ilhade São Sebastião - SP

Bacillus tunirigensis israelensis, that attacks the larvae of the mosquito ~~before~~ in the streams.

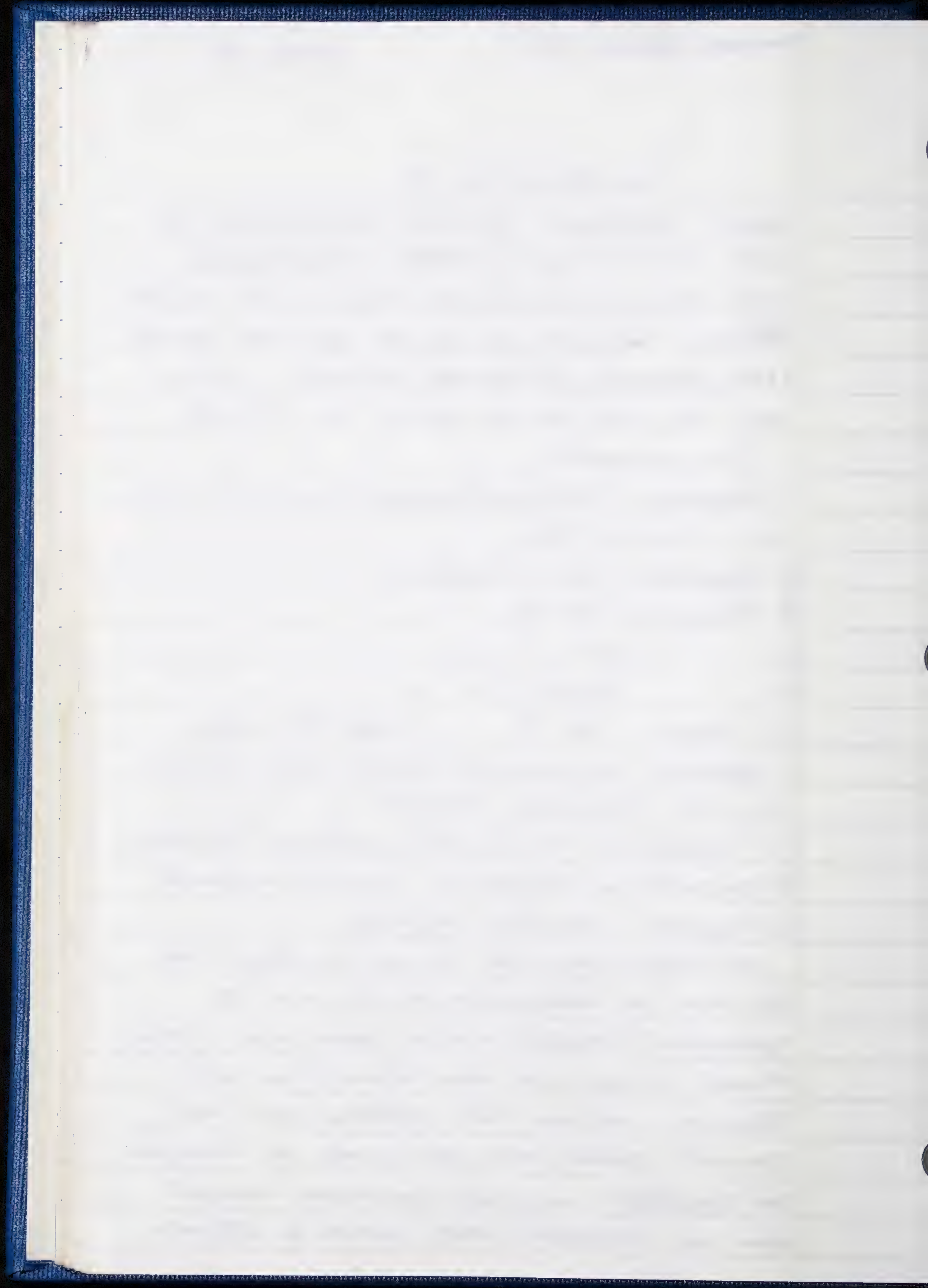
Carlos Fernando de Andrade, professor at UNICAMP, has been studying this system for several years on Ilhabela (and specifically at Fazenda da Toca). In the past, they used BHC to control the mosquito.

Today we caught:

- ① Nectomys (JLP 49 on the ground, by a little creek that crosses the trail).
- ② Proechimys Tom 71 on ground
- ③ Proechimys Tom 68 " "
- ④ " JLP 31 " "
- ⑤ " Tom 50 " "
- ⑥ Sciurus Tom 29 " " near little creek
- [ Oryzomys that escaped when we were transferring it to cloth bag, Tom 23)
- ⑦ Proechimys Tom 20 on ground near little creek
- ⑧ Oryzomys w/ 3 newborns MNFS 15 on ground
- ⑨ Oryzomys MNFS 11 on ground

We decided not to set the last 100 traps. We ate dinner at Restaurante do Paulinho. 2 'comerciais' (standard dish w/ beans, rice, a choice of meat, salad and some veggies) for Cr\$ 35000.00, not bad and excellent food. 1 dish would probably have been enough for 2 people. The Monodelphis we caught yesterday escaped from Rui Cergueira's trap (similar to a Tomar-







hawn, but produced in Brazil).

08 August (Sat.)

Temperature last night ranged from 16 to 21°C. Altitude at Fazenda da Toca, where we set our traps ranges from 150 to 230 m. The last Tomahawn was stolen (Tom 72)! We caught:

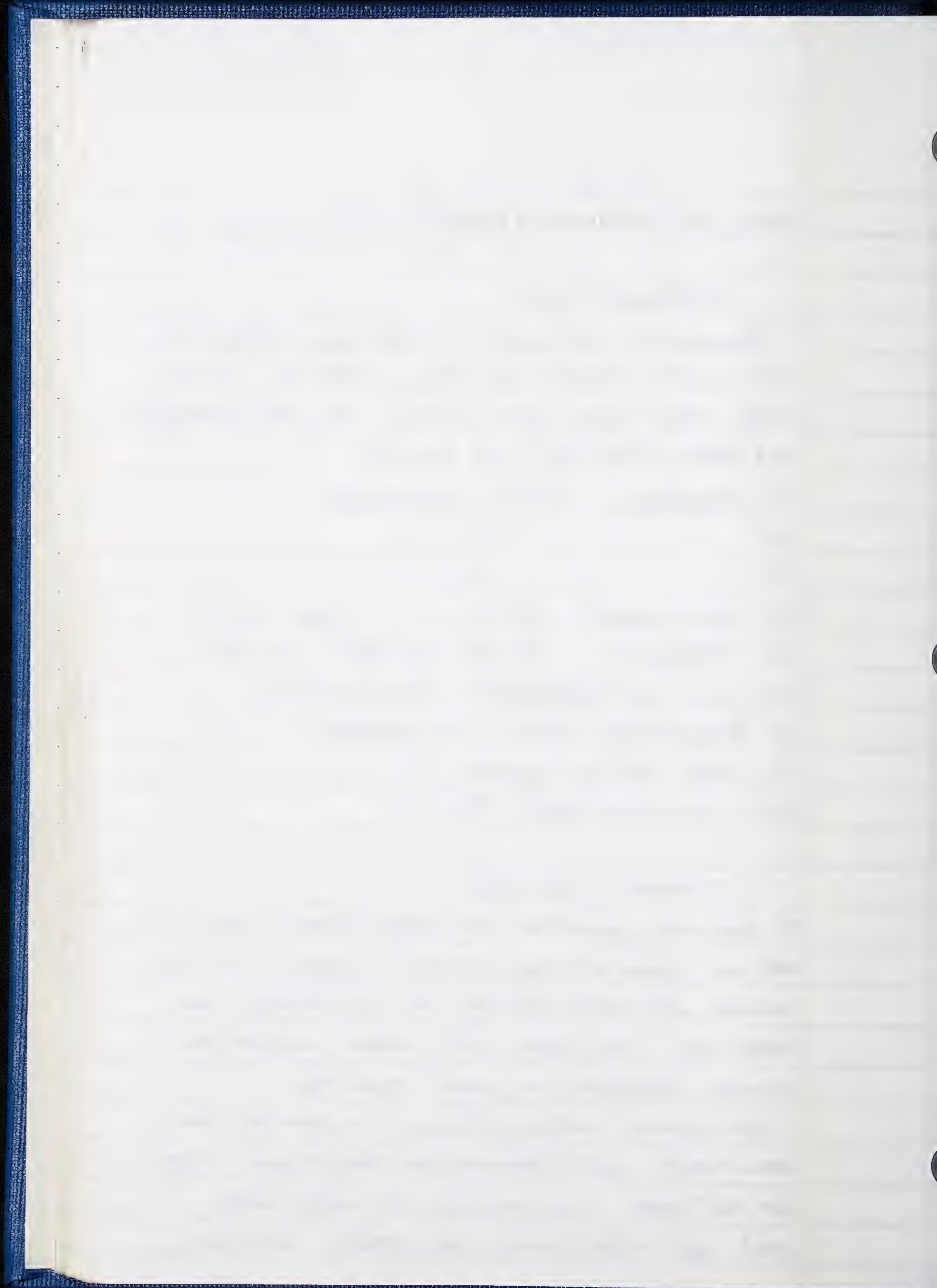
- ① Proechimys Tom 71 on ground
- ② " " 68 " "
- ③ " " 56 " "
- ④ small mouse JLP 19 " " near water
- ⑤ Marmosops Tom 31 on tree! 1.5 m alt., thin tree that had fallen over the trail
- ⑥ Proechimys MNFS 7 on ground
- ⑦ bird Tom on ground
- ⑧ a frog on litter \*

09 August (Sunday)

\* Beginning from the last traps (Tom 71 and JLP 49) we closed all traps, except: from JLP 20 ahead we started leaving all the traps on the trees open and from JLP 5 ahead we started leaving Shermans on ground open too.

We caught nothing today, in spite of the tree-traps and Shermans-on-the-ground traps we left open. We packed all traps today and left them along the trail. It took







São Sebastião Island

us  $\pm$  4 hours of work. Total # of trapnights = 560.  
Total # individuals trapped = 29. %age of capture = 5%.  
It rained continuously last night.

10 August (Mon)

We brought all traps home. and finished skinning last animals.

11 August (Tue)

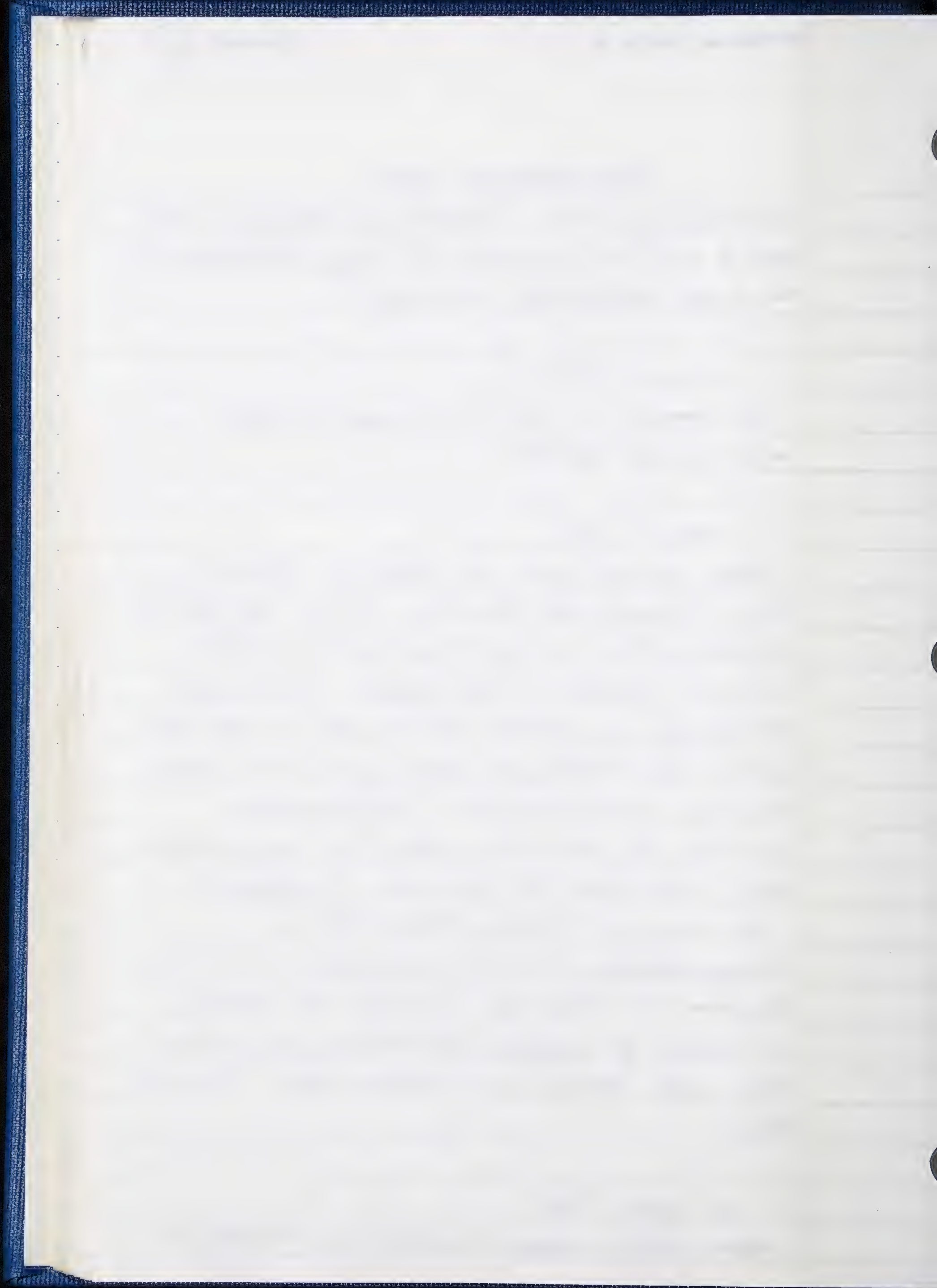
Before we left from the island we talked to Chico (Francois van Sebreeck, CP 47, cep 11630 Ilhabela-SP), said goodbye to Luiz Filipe and went to talk to Sen Ademir. We showed the animals we caught and he gave us the local names and mentioned some sp we didn't catch: *Oryzomys* = passa caminho; rato vermelho = cururua' (by description seems to be *Kannabateomys*), rato branco da cachoeira, *Gracilinanus*.

We came to Fazenda Serra Mar in Caraguatatuba, by recommendation of Chico. The farm has 14000 ha (5000 ha of forest). It used to be banana plantation, nowadays they have cattle and produce milk. (15000 l, day!).

12 August (Wed)

After driving around the farm, we decided to







## Ubatuba - SP

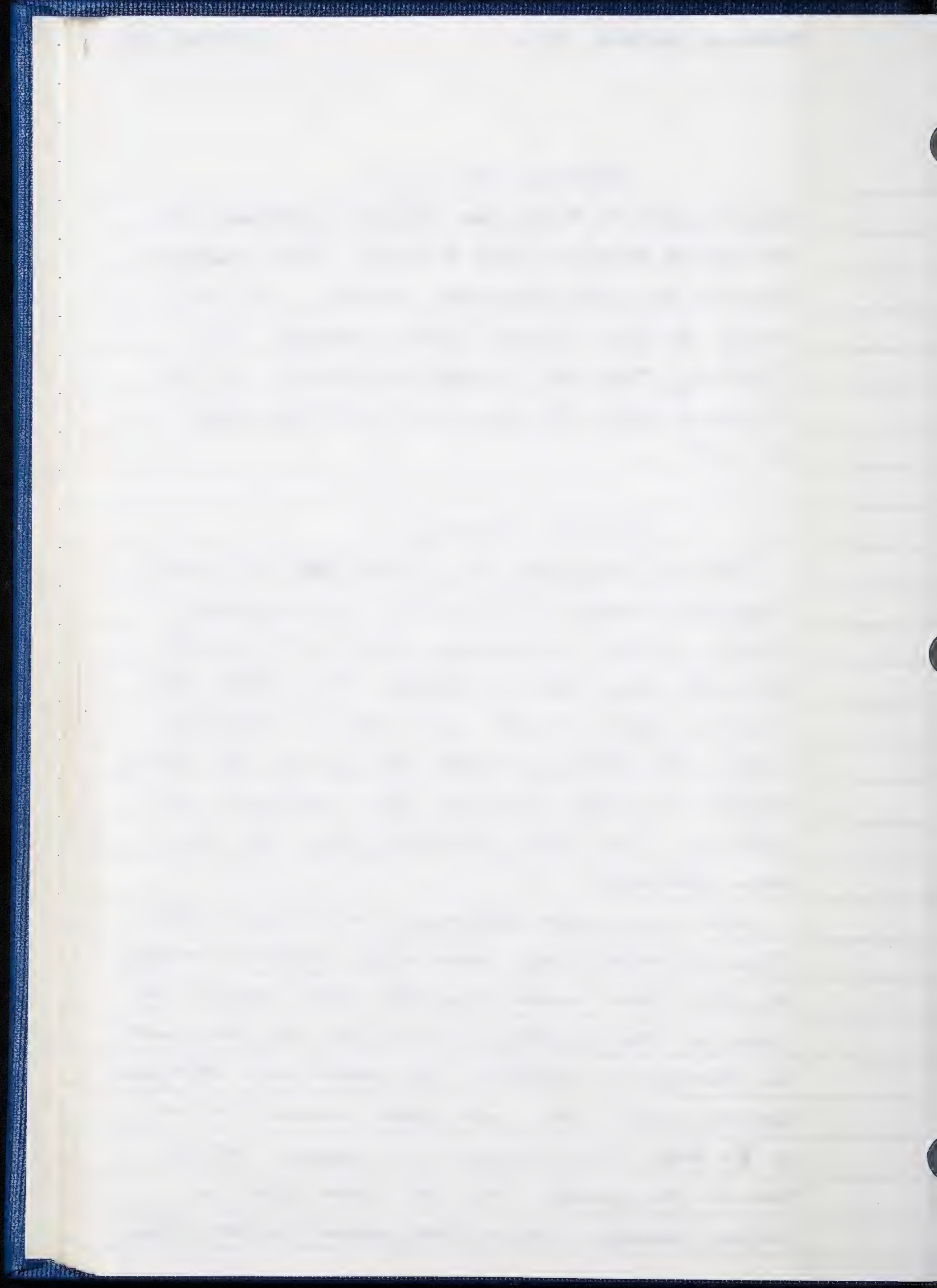
come straight to Picinguaba (Núcleo in Ubatuba of the Parque Estadual Serra do Mar). Since Instituto Florestal has not authorized collecting, we will collect for prof. Miguel Trefftant Rodrigues (USP - São Paulo) that has a project authorized at IF. It rained during the day, and is raining again at night.

13 August (Thursday)

Núcleo de Picinguaba was a farm ~~that~~ in the past. Picinguaba means retreat of fish in tupi guarani. There is a village of fishermen, with ca. 100 families that dates from the last century. The núcleo has 8000 ha and is unique as a park in SPaulo bc. it begins at altitude 0 (zero) and goes up till 1300m, so that it includes habitats like mangrove and restinga (the other state parks begin at 100 or 200m altitude).

After some more bureaucracy, we decided that it might make things worse with Instituto Florestal to collect there under somebody else's project. We came to Praia do Félix, one of the last ones north in Município de Ubatuba. My parents have ~~some~~ some land here and I know some people around. We set up 40 traps (1/2 Tomahawk, 1/2 Sherman) all of them on the ground. We used same bait as before banana, manioc, and peanut butter. Today







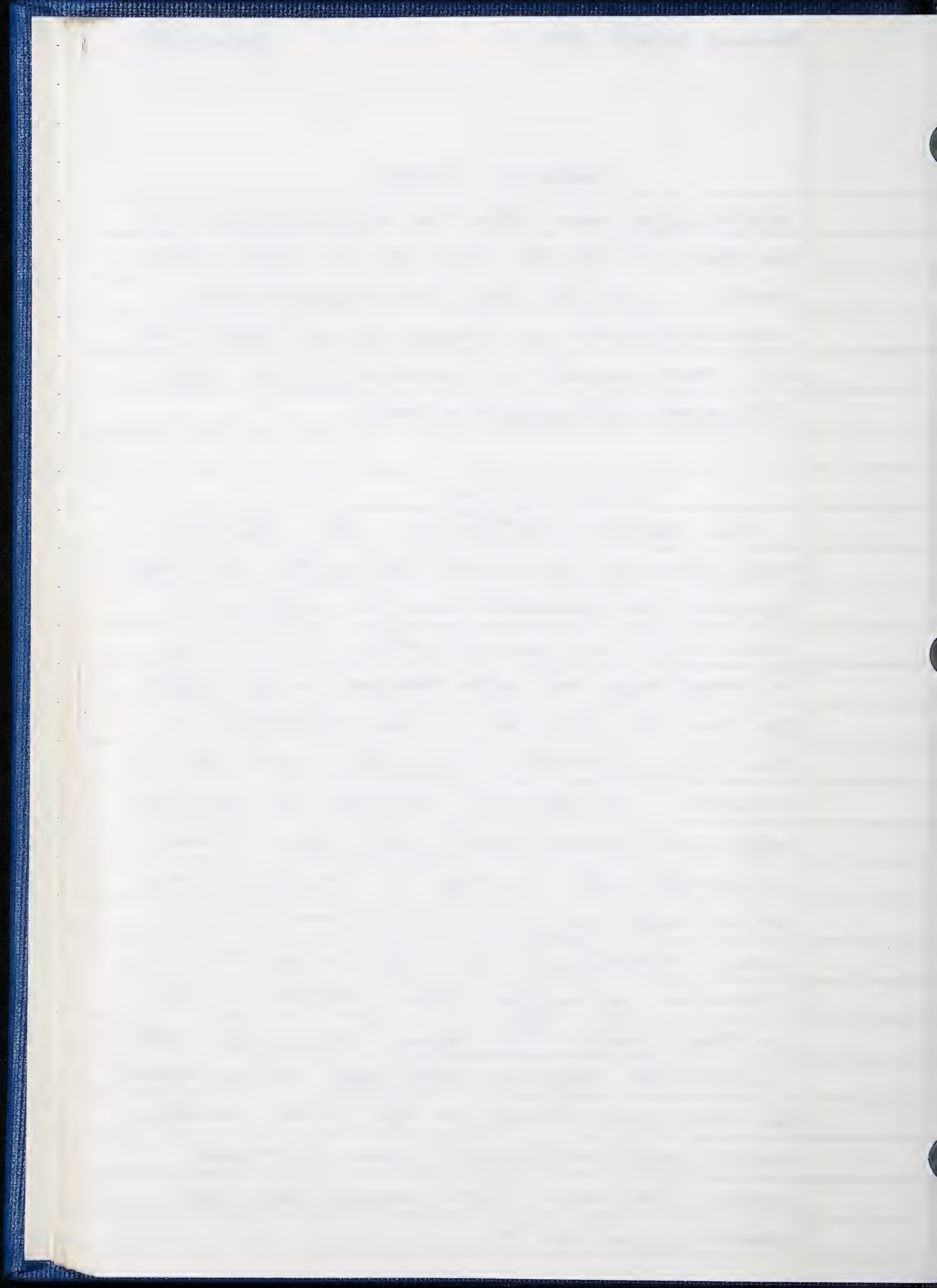
## Ubatuba-SP Brazil

we also added some apples that were going bad. We are staying at Pousada Beira mar of João de Vincenzo. He said that some marmosa-like little animals are very common around here. I set up 7 traps around the Pousada (3 "Rui's" and 4 Shermans), all up in the trees.

14 August (Friday)

We caught a Rattus in a "Rui" (Brazilian trap similar to a Tomahawk) put on the wall that separates the pousada from the neighbour. ( $\pm$  1.8m alt.). We caught nothing else in the 6 other traps set with banana and/or apple. In the 40 traps set up ~~the~~ yesterday in the hill we caught a Didelphis, that was released. He stayed in the trap for some time maybe not noticing that it was open. When it finally left the trap, it stayed gaping at us, and moving its head from side to side (measuring us?). We set up the 20 Shermans up in the trees, completing 60 in that trail. It seems that a dog had sniffed at most of the traps set yesterday bc they were turned on their side, sometimes closed and even dragged from its original place. We saw a Sciurus running along the branches up in the trees.





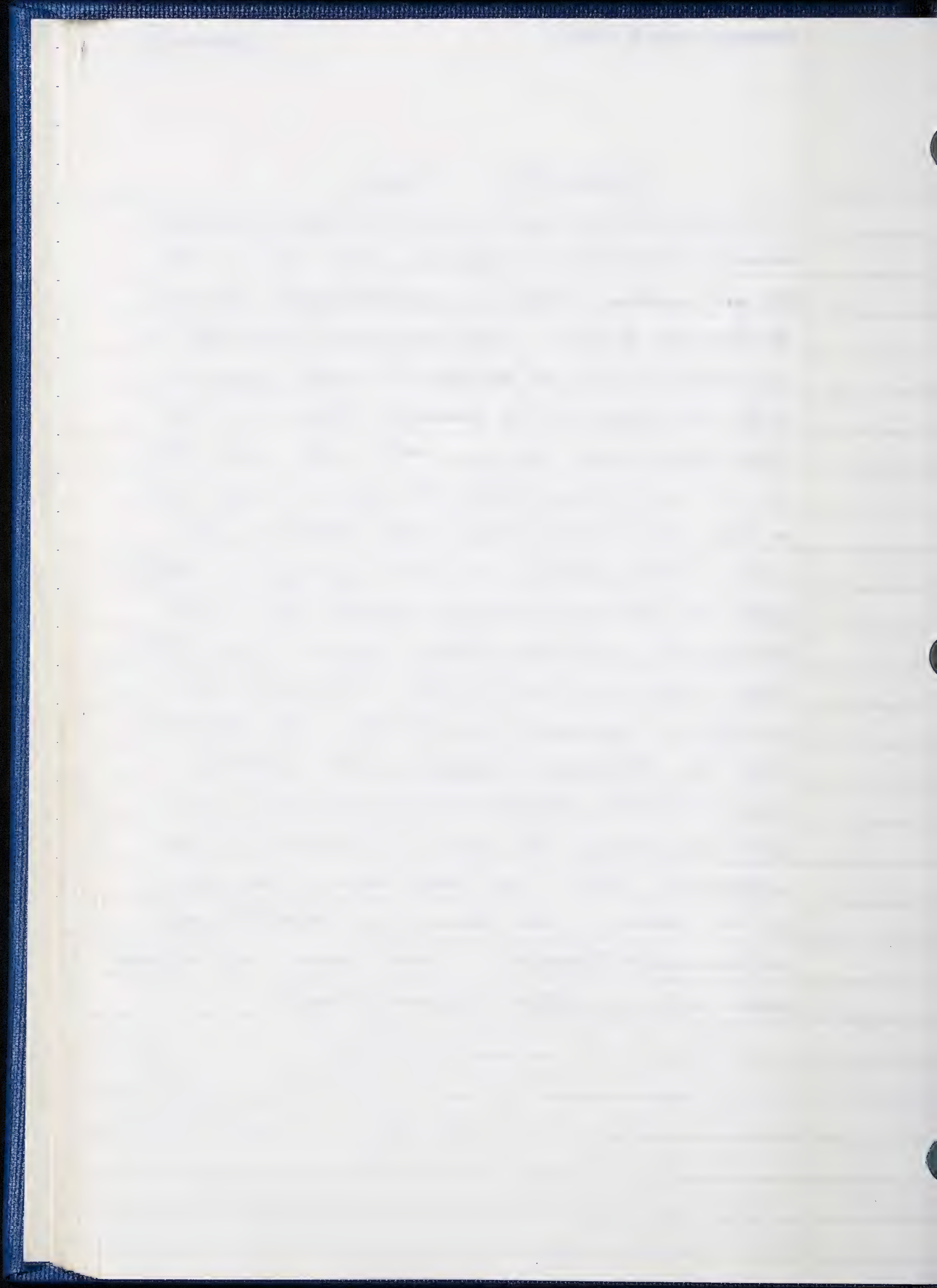


Ubatuba - SP

Brazil

In the afternoon we set 60 more traps (20 Tomahawks + 40 Shermans). Presently MNFS 40, 45, and 52 are broken. Tom 72 was stolen from the trail at Fazenda da Toca. One Tomahawk was left on Carmo Acima Trail at Fazenda Intervales (Tom 11). João, the owner of the pousada, took us to the creek that serves the area with water and there we set our traps today. The forest is older than on the hill where we put traps yesterday. We cut a trail through the forest, going up. Bait again was banana, manioc, peanut butter (only Tomahawks) and some apples left over from yesterday. João said that saruê, a Marmosa-like creature is common around here. The description looks like Micoureus cinereus. The weather remains stable, temperature around 20°C, sky partially cloudy. It rained a little bit in the afternoon. This is the driest time of the year in this region. João knows the secretário geral of Instituto Florestal: José Timoni and offered some help w/ future authorizations.







M.A. Mustrangi

BRAZIL

1993

Journal

Ubatuba - SP

Estação Biológica Boracéia - SP

Sítio Até Que Enfim - SP

Parque Estadual de Ilhabela - SP

Parque Nac. do Itatiaia, Penedo, Itatiaia - RJ

Ibicuí, Município de Mangaratiba - RJ

Estação Biol. Santa Lúcia, Santa Tereza - ES

Aracruz Celulose Co., Santa Cruz, Aracruz - ES

Fazenda Santa Terezinha, Linhares - ES

Estação Biol. de Caratinga, Caratinga - MG

Parque Estadual de Ibitipoca, Lima Duarte - MG

Fazenda Santa Carlota - SP

Fazenda Santa Capricórnio - SP

Serra do Japi, Jundiaí - SP

Estação Biol. Boracéia, Salesópolis - SP







Ubatuba - SP BRAZIL

17 <sup>July</sup> August (Saturday)

Ricardo Boulhosa and I left São Paulo at 9:30 am towards Fazenda Capricórnio in Ubatuba - SP. We drove along Dutra highway and then Tamoios (rodovia).

Coming to São Sebastião, we took BR 101 (Rio-Santos highway) north.

We arrived at more or less 2 pm, driving 80-100 km/h. Paulo, manager of Fazenda Capricórnio Reserve, was not at home (Av. Beira Mar, 427 Praia Perequê-Açu Ubatuba - SP, tel (0124) 32-5623).

He arrived a little while later and we arranged to come and work at the reserve.

Fazenda Capricórnio lies in Bairro (=neighborhood) Taguaral, in front of Perequê-Açu beach, more or less 5.5 km <sup>N and then 1.2 km W</sup> along a dirt road, <sup>from Ubatuba.</sup> Seu Salvador, caretaker of the reserve, showed us our accommodations. There are 2 houses for visiting researchers, with H<sub>2</sub>O, light, etc.

They are back to exploiting the cacao plantation here at the farm/reserve. Last year when I was here they were not working w/ any crops.







Mustang, Meika A. 1993

Journal (25)

Ubatuba-SP BRAZIL

Ricardo and I unpacked and organized the equipment for tomorrow. Outside, crickets and frogs sing.

<sup>July</sup>  
18 August (Sunday)

There are 2 bunk beds and 3 beds in the researchers' house. We are staying at the smaller of the 2 houses. There's a big room: Kitchen + dining room + living room + working space, with a big wooden table where we can work. The stove leaks gas and the fridge is a very strong (!) freezer! There's even a balcony at the back of the house w/ a big sink. The bathroom has electric shower.

We set up 120 traps today, from 9:00 am to 4:00 pm. Temperature last night was 15°C. The max today was 25°C. It's been very humid, but no rain yet. Traps set: 40 Tomahawks + 80 Shermans. Stations w/ 1 Tom on ground and 1 Sherman on the ground and 1 Sherman on a branch at ca. 2m. Stations 20m apart from each other. We started just after crossing Rio Comprido and kept along the trail, going up in elevation. The last stretch today was very steep.







Musturangi, Meika A. 1993

Journal 26

### Ubatuba - SP

Bait: banana (slice) and oatmeal.  
We met 3 hunters in the afternoon. They backed when they saw us, but I called and then they had to pass by us. Probably illegal hunters, w/ pistols and large canisters. Backpacks full of ?. We didn't talk. We need to tell Paulo and Seu Salvador about them.

19-24 July

Fundação Capricórnio is more or less 1 year old. It's a private biological reserve for sustained exploitation of the forest ( $\pm 600$  ha). They grow forest products (some not native of Mata Atlântica, e.g. cacao), run educational programs (ecotourism) and others.

After the first trapping night with only 2 individuals of Proechimys captured, we bought "amendo-crem" (= peanut butter) and "emulsão scott" (= food supplement made of codfish liver oil). We caught 6 animals on the 2nd night, 1 Akodon, 1 Metachirus and ... 4 Proechimys. As on São Sebastião Island, they are quite abundant here.

The forest strikes for the abundance and diversity of lianas and epiphytes, some quite beautiful. Many trees have aerial roots







Ubatuba - SP Brazil

similar to mangrove trees, and some seem to use those to be able to grow on rocky terrain (and somewhat steep), embracing the big boulders w/ their roots.

In total, we set 120 traps (with stations with 3 traps as described before) and kept them open for 4 nights, totalling 480 trapnights. We caught 2, 6, 6 and 2 individuals (plus 1 Akodon that escaped from a Tomahawk), making 3.5 % trapping success. Both number of individuals and number of species were lower than last year.

Proechimys <sup>population</sup> seems to be high in juvenals at this time, from what our captures show. We karyotyped 2 Proechimys, 1 Akodon and 2 Onychomys.

João de Vincenzo (Pousada da Praia do Félix) says he has seen a small opossum (Marmosops?) near his house.

Altitude here varies from 50m to 250m (our highest trapping station).

A young individual of Proechimys, that was being kept in a trap, vocalized a lot in the morning and was taped. The Metachirus male also vocalized, w/ a mixture of hissing, and teeth chattering. We could observe him inside the trap w/ the penis everted.







nustrangi, Meika A. 1993.

Journal (28)

ubatuba-SP Brazil

We photographed all but the Proechimys individuals captured.

Seu Salvador, keeper of the farm names Proechimys : rato paca; opossums : guaiçucas  
Didelphis : raposinha. He told us Proechimys eat cacau. Opossums come to eat bananas left to ripen. He says Proechimys climb the cacau trees and eat the fruits.

We caught 2 Didelphis, on 2  $\neq$  days, in two different traps, and released them.

The Metachirus individual, male, had a dark area on its abdomen, more or less where the marsupial would be in a female of a species with marsupium. I had never seen a male w/ such a stained, pigmented skin area on its belly before. I found no yular gland on this male.

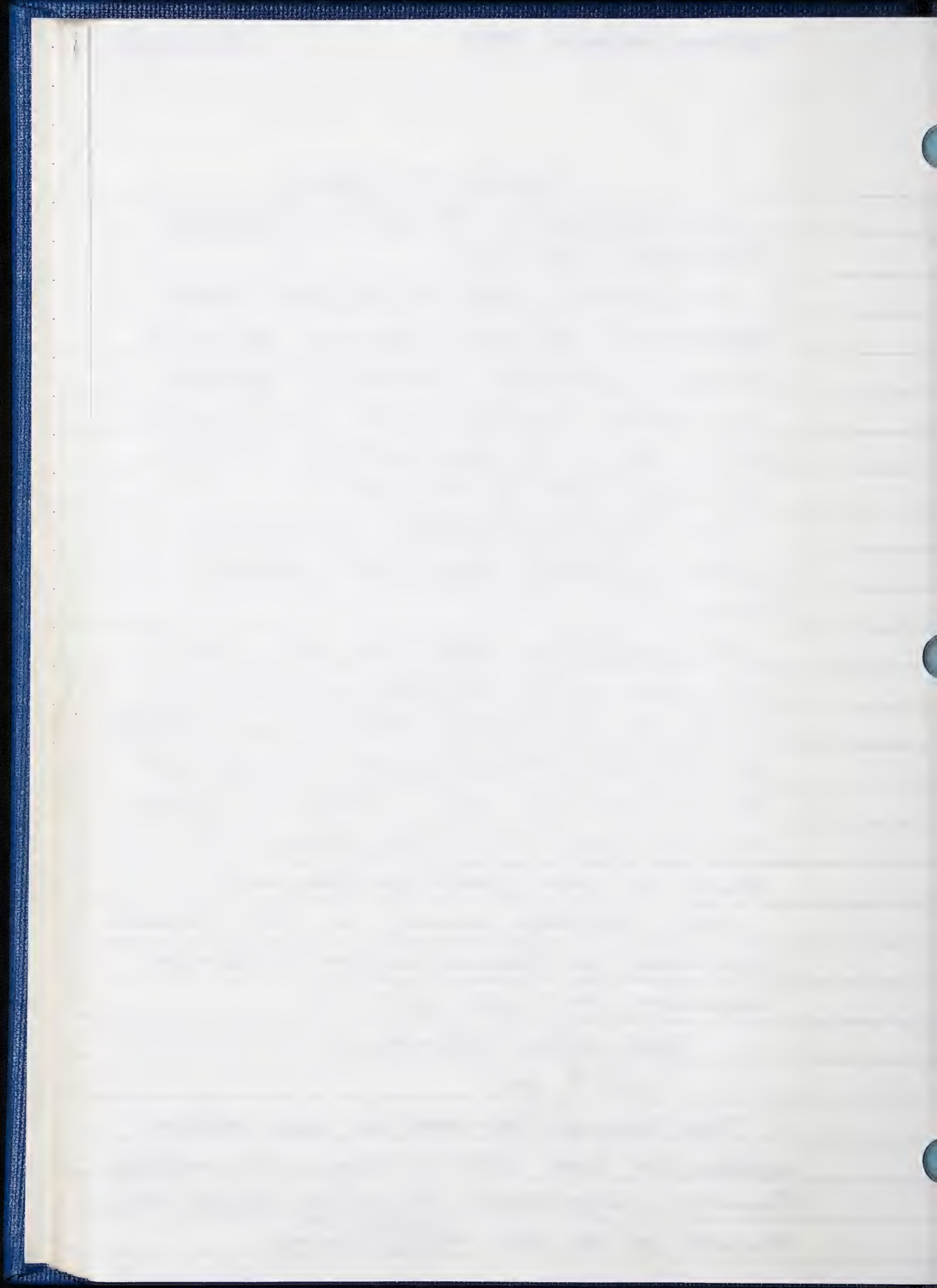
Early Saturday morning we left Fazenda Capricórnio for Estação Biológica de Boracéia.  
Temperatures : day 25-30°C, night 15°C.

Estação Biológica de Boracéia - SP

24 - 31 July

From Fundação Capricórnio we came south on estrada Rio-Santos (BR 101), then up on rodovia Tamoió (Caraguatatuba - São José dos Campos) till the exit for the road to <sup>Salesópolis and</sup> Mogi-Guaçu.







E. B. Boracéia - SP

The Estação Biológica de Boracéia lies midway between Mogi-Guaçu and Salisópolis. The reserve has approx. 100 ha and lies within a larger reserve that belongs to SABESP/DAE (=dep de águas e esgotos), of approx 16,500 ha. It includes the drainage of Rio Claro and the headwaters of Rio Guaratuba. Rio Claro is the first affluent of significant size of Rio Tietê. Rio Guaratuba flows down the coastal range towards the Atlantic Ocean. The reserve protects water reservoirs that collect water drinking for the region of the city of São Paulo. E.B. Boracéia lies less than 1 km away from the <sup>coastal</sup> scarp and 14 km away from the sea, at 850 m elevation. E.B.B. was created in 1954 as such, before it was a place for growing guineiras (for quinin), since 1938. See Travassos-Filho and Camargo, 1958 in Arq. Zool. Est. S. Paulo 2(1): 1-21 for more information about the reserve and research done there.

There are 2 park rangers: Sen Firmino and Antônio, that have been living there for 20 and 10 years respectively. We stayed at the researchers' house. There is a separate building for lab work. Boracéia is one of the most moist places in South America, with annual precipitation above/around 4000 mm. We experienced rainy and cold days







E. B. Boracua - SP

with day temperatures of  $11^{\circ}\text{C}$  (same as during the night) and warmer, clear sky days w/ day temperatures of  $20-25^{\circ}\text{C}$  ( $15^{\circ}\text{C}$  at night). We started without moon, ~~but~~ and night of clouded sky, but the last days of our stay had night of bright moonlight (almost full moon).

According to information collected by Antônio at the SABESP meteorological station the coldest months here are from June to August or September and the warmest from October to February. Rainy season is from December till January and dry season from October to December.

We set traps in stations 20m apart along two trails: "trilha do divisor marítimo" and "trilha da cachoeira dos pilões". The first is dryer, the second goes near the river and even crosses a little creek. Stations had 1 Tomahawk and 1 Sherman on the ground and 1 Sherman trap on a branch, at 2m above ground. As bait we used banana, oatmeal mixed w/ codfish oil and oatmeal mixed with sardine (canned) for the last 2 days. We also had traps along the forest edge on the way to trilha da cachoeira dos pilões.

According to Antônio animals in the forest eat cambuci, araca-piranga, uvaia, canela. On the first night we trapped 2 very young Philander







## E.B. Boracéia - SP

very similar to a large Micoureus. Both still had the deciduous premolar in place. They were caught close to the creek on trilha da cachoeira dos pilões. We caught 25, 15, 16, 15, and 16 individuals on the 5 nights that we had traps open. A total of  $135 \times 5 = 675$  trapnights. 2 sp of marsupial<sup>and</sup> (Philander opossum and Didelphis marsupialis), 5 species of rodents: 1 Proechimys and 5 Sigmodontinae (Akodon, Delomys, Oligoryzomys, Oryzomys, Rhipidomys and Proechimys). Of all arboreal traps, we had only 2 captures: 1 Rhipidomys and 1 Oryzomys (the latter showing/ accomplishing quite a remarkable climbing feat). Besides taking tissue (liver and kidney) in alcohol and liquid nitrogen for all individuals, we prepared chromosome material (frozen) for Akodon, Oryzomys and Rhipidomys. "tovaquinha" (bird) fell 4 times in Tomahawk traps. Didelphis, both black and gray morphs, visited our traps (according to Antonio they are not common in Boracéia) and were trapped 4 times, on 3 different days. They (or another animal?) messed up with some other traps without being caught inside. On two occasions traps were carried far away from their original place, one of them we never found (a Sherman). The first was a Tomahawk with probably a Oryzomys inside, when we found it there was only 1/2 animal







## E.B. Boracéia - SP

inside. A young (very) Proechimys without its front left leg was also found dead in a Tomahawk. A Dilomys (probably) was also found dead and half eaten in another Tomahawk. One of the "tovaqui-nhas" was also found dead, and the Tomahawk 10m away from its original place. One Sherman had one of its walls torn, as if an animal had tried to tear it open at one of the doors, there was no captured animal inside it when we found it.

A male and female of Oryzomys were found trapped together in the same Tomahawk. The female was dead, but the male seemed fine.

Along the forest edge we caught only 2 individuals: 1 Oryzomys and 1 Akodon (out of  $15 \times 5 = 75$  trap-nights there). Antonio caught 2 Oligoryzomys inside his house.

Trapping success amounted to  $87 / 135 \times 5 = 13\%$ , quite high, but diversity was lower than expected. We didn't get Marmosops incanus,<sup>of</sup> which Bruce Patterson caught 5 individuals here last year, in the same month! I would like to return in "new moon" and try trapping again.

Proechimys is not so common here, as in Ubatuba (Fund Capicórnio) and on São Sebastião Island. Oryzomys and Dilomys are by far the most common animals, according to trapping results.







E. B. Boracéia - SP

A Philander killed and ate an Onychomys in the lab. They were being kept in the same cage because of space limitations and the Philander, still young individual broke the separation and got the mouse. It ate the head and the hindquarters of the mouse leaving the guts exposed. Akodon and Delomys seem very keen on gnawing their way out through cloth and cardboard.

Owl pellets were collected at its night site (sleeping) just after our last trap station on trilha da cachoeira dos pilões. It was probably the predator of some of our attacked traps.

On the way to the reserve we found a male Philander run over on the road. We took pictures. It looked like it had been hit on the head.

Onychomys and Delomys comprised most of our captures.

We left Boracéia early Saturday morning for São Paulo.

Sítio Até Que Enfim, Caucaia do Alto - SP  
19-22 August

The "sítio" (= small ranch) belongs to "Sen" Antônio Damiano, father of a colleague of mine from USP, Kátia. Kátia found several young Marmosa a couple







Sítio Até Que Enfim - SP

of years ago inside the "store house". She tried to raise them but they died sometime later. She preserved one of the young in alcohol. The ranch is quite small ( ). The house is surrounded by a 30-40 yr-old forest, that Seu Antônio proudly preserves. He says that one can see many animals (birds and small mammals) in this little forest. The zam forest extends in the neighbouring properties. There is no flowing water inside Seu Antônio's area, but it probably emerges at some point nearby. The area where the ranch lies has a few natural/ dammed pools (= "açudes").

Ricardo Boulhosa came with me and stayed for a couple of days. We set up 20 stations w/ the usual 1 Tomahawk and 1 Sherman on the ground and 1 Sherman tied to a branch at 1.5 - 2.0m. As bait I used guava preserve ("goiabada") and mortadela (kind of sausage). Later I tried sardines mixed w/ oatmeal but it didn't seem to increase neither quality (diversity) nor quantity (abundance) of animals captured. \*other side of page

Weather remained warm days ( $20^{\circ}\text{C} \pm$ ) and cool-cold nights ( $10^{\circ}\text{C}$ , one or two days it went down to  $5^{\circ}\text{C}$ ).



\* also used frozen liver and cut of meat which did not seem to perform better than ~~sa~~ mortadela; also used banana in all traps.



Sítio Até Que Entim - SP

I captured 10 animals out of  $(\overset{60}{75} \times 4) + (15 \times 2) = 270$  trapnights. Trapping success therefore amounts to 4%. Diversity of species was relatively high, including species not so commonly trapped like Monodelphis americana and Caluromys philander. Caluromys philander individual is a female and is being kept live. Her tail was broken by Sherman trap door.

To get to the ranch one takes Rodovia Raposo Tavares (SP 270) till km 39, turns left on a Zany road that leads to Cotia, Tigre Preto and Caucaia do Alto. From Caucaia do Alto it is 1.6 km on paved road, then 7.3 km on dirt road till the ranch, which lies close to the soccer stadium "Mário Ribeiro". Altitude here is around 900m. It took more or less 1 hour (with no traffic) from São Paulo to the ranch.

P.E. Ilhabela - SP

We (Albert D. Ditchfield and I) took Rod. dos Trabalhadores, then Dutra, then Tamoiç (SP-99), and finally we turned south on Rod. Rio-Santos (BR 101) till São Sebastião. From there we took the ferry boat to the island. From São Paulo to São Sebastião it is about 220km/, which







P.E. Ilhabela - SP

we made in 3.5 hr. The ferry crosses the canal ( $\pm 2$  km wide, at most 37-38 m deep) in 15-20 min and leaves all the time, all day long and through the night.

On the island we stayed at Petit Village Hotel, as a courtesy from Nivaldo Simões (ex-manager of the hotel) currently a reporter <sup>one of</sup> for the local newspapers: Imprensa Livre, and who wrote a full-page article about our work.

The island is 80% a State Park, <sup>for</sup> which the director is Fábio Olmos, who got his Masters a couple of years ago at UNICAMP. Fábio is an eclectic ecologist, specialist on birds, but also interested in mammals, etc... He invited us to the island and accompanied us everyday, all day long in our daily activities. According to Fábio there is a big diversity of forest "types" on the island. not only because of the varied topography from 0 - 1300 m (Pico de São Sebastião) but also because (probably) of rain shadow effects.

We decided to sample two elevations: 1- 200m, at <sup>one of</sup> the entrances of the Park on Estrada de Castelhanos, near trilha (=trail) da Água Branca; and 2- at 650m.







P.E. Ilhabela - SP

the highest point along that same road, half-way to Praia (=beach) de Castelhanos. (the end of the road). We set 15 stations with 1 Tomahawk and 1 Sherman on the ground and 1 Sherman tied to a branch, standard procedure; Bait used: goiabada (guava preserve) and mortadela (kind of mild sausage)} in both elevations. At the 200m trail we crossed a river. At the 200m elev. trail we also set up 5 kill traps (museum specials) with alternating goiabada and mortadela.

Temperature remained warm days and nights  $\pm$ : 20-22°C during the day and 14-17°C at night, during our stay (4 days trapping, as usual). On the night when we arrived at the island the weather was rain and heavy mist, but <sup>on</sup> the following morning it cleared to a blue sky and warm temperatures and stayed like that till the end. The moon turned full during our stay, and since the 1st night was very bright and came out quite early (at sunset).

We were unable (timewise) to set up traps at the "mata seca", as Fábio calls it on the northern end of the island.







P. E. Ihabela - SP

On the first day we captured 6 Philander at 650m, the highest density I've ever observed. Chamaeza spp (Aves: Formicariidae), "tovaca" were trapped quite frequently at that site too. One was attacked and killed inside the trap. We caught Onychomys at 200m but interestingly not at 650m. Proechimys also showed an interesting pattern with only big, adult individuals being collected at 650m and only juvenals collected at 200m. The Proechimys captured at 650m seemed particularly large and red ("castanho") to me. It would be interesting to find out that there are 2 species on the island, separated altitudinally. The Philander individuals so far collected on the island also look different from Philander opossum from the mainland to me.

We found some bean-shaped, 1cm long, seeds gnawed on by some mouse, which we collected for identification.

The only list of mammals for the island is by Underwahlt (1929) and includes: Caluromys philander, Marmosa murina (!), Sciurus ingraui, Onychomys nigripes, Oxymycterus hispidus, Holochilus brasiliensis, Nelomys thomasi and Proechimys iheringi (type local-







P.E. Ihabela

ity). So we increased this list with : Marmosops incanus (misidentified as Marmosa murina by Luederwaldt ?), Monodelphis cf thiara, Philander opossum <sup>and</sup> Akodon spp (2 species); The density of Monodelphis (total of 4 indivs., all caught at 650m) was also surprising.

In  $90 \times 4 = 360$  trapnights we caught 42 animals (including 8 Chamaeza), a trapping success of around 10%, quite good for trop. forest.

Hotel Sta. Monica - RJ

We arrived at Parque Nacional de Itatiaia on Saturday 18th of September. We couldn't talk to the director of the park since it was during weekend. So we stayed at Pousada "Aldeia da Serra", one of the first hotels inside the park. The manager, Zezinho, and his wife Val were extremely nice and made a special (low) price for us.

P.N. Itatiaia was the first park created in Brazil, in 1937. It has recently been expanded (from 12.000 ha to 30.000 ha) in 1982. It has many hotels and private houses within its boundaries. It includes mata da serra, campos de altitude and







Hotel Sta. Monica <sup>União de</sup> ~~Penedos~~ - RJ

mata de planalto, going from 600m (?) to 2700m altitude. There is a museum in the park, with mammals, birds and insects. For small mammals there was a Philander opossum mis-identified as Marmosa cinerea. There were some small rodents unidentified. There were monkeys, Procyon, Nasua, white-lipped and collared peccaries, Hydrochaeris, ~~an~~ agouti paca. The origin of those animals is unsure, they may have been caught in the park or come from other places.

Director of the park: Pedro E. C. Melo offered us lodging in the park. We couldn't collect inside the park. Though

Therefore we went to Fazenda da Serra and then Hotel Sta. Mônica, properties with forest continuous to the park. Sen. Guilherme and Dona Trudi, Germans that have been living there for 15 yrs and own the Hotel Sta. Monica, offered us to stay at one vacant workers' house, close to the forest. We set up the traps along trails: 10 stations crossing the river close to the hotel, 10 stations along a trail going further away into the forest (towards the park) also crossing that same river; 20 stations further into the







### Hotel Sta Monica

the forest, going uphill. Altitude goes from  $\pm 600m$  (close to the hotel) to  $700m$  (at the end of the trapline).

Alexandre, a park ranger from PNI who has taken a 2-week course in taxidermy, came to accompany us in the work.

The Hotel is located at the end of a  $\pm 5km$  dirt road that leaves BR (Dutra rd.) more or less  $1.5km$  south of the road police station, which is a few kilometers north of the town of Itatiaia.

Traps were set for 2 nights only (20<sup>stations</sup> the first night, 40 total the 2nd night), totalling 180 trapnights. It rained heavily & all day long on the first and third days of our stay. Trapping wasn't very successful: 2 species of rodents and 2 species of marsupials. Temperature was around  $20^{\circ}C$  day and night. Rainy season is definitely starting! Moon is waxing.

We left on the Friday 24th of September.

### Ibicuí, Município de Mangaratiba - RJ

We arrived in Ibicuí, a little town in the município of Mangaratiba on the 25th of September, Saturday. We came from Rio de Janeiro, it rained all day. Ibicuí







Mostrangi, Meika A. 1993

lies in the southern end of Baía de Sepetiba, 1.5 hr away, by car, of the city of Rio de Janeiro.

We set up all 120 traps Sunday. Till the day we left it didn't rain any more. We worked in Mineadoras Brasileiras Reunidas' farm. Secondary forest follows the pasture, The property lies along the BR-101 (Rio-Santos) highway. There are many families living nearby and the transit of people seems quite intense. Rio Sahi flows through the area. The area where we worked seems to have been in the part <sup>where</sup> the farm house was. There are many fruit trees (jacas) around.

Temperatures ranged from 18-25°C during our stay, including day and night temperatures. Days were warm, with partially covered sky. The moon was almost full and was rising early (around 6 pm).

Traps remained open for three nights, totalling 360 trapnights. We used banana, guava sweet (goiabada) and mortadela as bait. Besides the animals collected, we captured a lactating Metachirus female, which we released. We also caught (and collected) a very young Metachirus male and Proechimys and 2 Marmosops incanus, both males, one







with the coarse and short scapular hairs (= the adult pelage in this species). We left Ibicuí on the Wednesday, the 29th of September.

Res/Est Biol Sta Teuza - RJ

We arrived in Sta. Teuza on the 30th late at night. Santa Teuza is a small town (30,000 inhabitants) at 650m elevation, 90 km north of Vitória, the capital of the state. In Sta. Teuza lies the Museu de Biologia Mello Leitão, created by the famous humming-bird researcher Augusto Ruschi.

We stayed at the researchers' house in the Estação Biológica de Santa Lúcia, 8 km south, by road, of the town. It has 590 ha in area. We set up 40 Tomahawk traps along the main trail, which goes along the river Tibuí and bordering the forest. Many tree and ground bromeliads with colourful and variable flowers abound. Humming birds and orchids are also quite striking there.

Traps remained open for two nights. As bait we used banana, goiabada and peanut butter. Besides the two animals collected, we also captured one lactating Metachirus and 2 Phyllotis: an old male and a female with her pouch full of young.







We found a female Mammosops nesting among dry leaves in a cardboard box in one of the bedrooms in the researcher's house.

We left Santa Tezera on Monday, 4th of October. Days were warm and increasingly sunny.

Marlon Zortea, biologist working at the Museu de Biologia Mello Leitão, handed us two vials with samples of liver from a Mazama americana that was found dead.

Liver was preserved in alcohol. The animal was collected by Edson Valpassos, biologist from Vitória - ES, <sup>on 16 July 1993 in Domingos Martins - ES</sup> and the prepared skin <sup>near "Pedia Azul",</sup> should be under his care. The tissues received my field number MAY 191.

Forest Fragments of Aracruz Celulose Co.,  
Aracruz - ES.

We arrived in Aracruz Celulose Co., Environmental Program headquarters (located in Bairro Coqueiral, 20 km E, 15 km S by road from Aracruz) on Monday 4th of October. Aracruz Celulose is an international company which grows eucalyptus in Brazil for extracting cellulose. It has 80.000 ha of planted eucalyptus only in the state of Espírito Santo. It also has eucalyptus forests in the states of







Aracruz - ES

Bahia and Minas Gerais. It has small (around 100 ha) native forest patches interspersed with the eucalyptus, where its environmental center develops some programs, like the breeding and reintroduction of Callithrix geoffroyi, run by the biologist Sérgio Luciana Mendes, from Museu Mello Leitão in Santa Teófilo - ES.

I set up traps in two "reserves": M-7 and Reserva da Grotta. The Fundação Biodiversitas did an inventory of the small mammals in the Aracruz reserves in July of 1992, as part of their general inventory for the entire Atlantic Forest. They reported Marmosops incanus only from the M-7 reserve. So I set up 30 stations along a trail there.

Stations with traps as usual: 1 Sherman + 1 Tomahawk on the ground and 1 Sherman on the tree. Reserva da Grotta, by their report also, had the highest diversity, and was also the only one where Proechimys was captured. So I set up 10 stations there.

It hadn't started raining yet this year so the forest at both sites were quite dry. M-7 may not have a creek within its area, or it was some ways from the trail along which we worked. Reserva da Grotta is more humid, since it includes the some-







## Aracruz - ES

what steep slopes where little creeks start. After a rain which happened during our stay there, the dry creek bed became a series of little ponds (no running water) where frog/toads immediately laid their eggs.

Traps remained opened for 3 nights, baited with banana, goiabada and mortadela, totalling 360 trapnights. We also used some peanut butter (amendocrem). Trapping success was quite low. We caught 2 Didelphis on the first night; another Didelphis, a Marmosops and a Metachirus on the 2nd night; and finally nothing on the third night. The Fund. Biodiversitas' group captured 10 indivs. of Marmosops incanus in M.7 with 60 traps open for 6 days (360 trapnights).

Interestingly, Fund Biodiversitas reported 2 individuals of Marmosa murina caught in Res. da Grota and in M.7. Marmosa murina, according to Emmon's Guide, does not occur in this area. It's an Amazonian sp that extends its range to the extreme NE part of Brazil. This forest in Aracruz is part of the so-called filéia baiana, or "tabuleiro" forest, which presents many if not most of its plant species closely related







Aracruz - ES

to the Amazon Forest.

Trap success amounted to 1.4% ( $5 \div 360$ ), which is actually around the value obtained by Fund. Biodiversitas' group. (1-3%).

Sandra Paccagnella and Eulor Eduardo Scardua run the Environmental Program at Aracruz. They were extremely helpful to us. Aracruz Co. supplied lodging, car, driver, field assistant and lab space for our work.

We left Aracruz on Saturday, Oct 9th, heading towards Linhares - ES: Res. Florestal da Cia. Vale do Rio Doce.

A lizard, probably Anoles, was collected (MAM 197) at one of the forest fragments. It was released by a snake, when the latter was captured. The snake was unfortunately released before being properly identified.

Fazenda Sta. Terezinha, neighboring forest to Reserva Florestal Companhia Vale do Rio Doce.

Since collecting animals is not allowed at the Reserva Florestal Companhia Vale do Rio Doce, we collect in a farm with forest continuous to the reserve. The RFVRD has an area of approx. 22,000 ha, and is continuous to the Sooretama reserve administered by IBAMA. Together they make up to approx. 50,000 ha of old growth







Faz. Sta. Terezinha, Linhares - ES

Atlantic Forest, the largest forest area in the state of Espírito Santo. The area is also important because of its floristic similarity with the Amazonian forest. This northern part of the state of Espírito Santo plus the southern part of Bahia have been called "Hileia Bahiana" or "mata de tabuleiro".

The RFVRD has facilities for research: lodging, lab, classroom. Graduate students from UNICAMP and UNB develop their thesis projects here, and UNICAMP's 1-month field course also takes place here. The RFVRD develops programs to exploit forest products and also regenerate disturbed areas of forest (e.g. program for the control of lianas).

We arrived at the RFVRD on the 9th of October. We had to wait till Monday to talk to a experienced park ranger who suggested we collected at Faz. Sta Terezinha. This farm has an area of forest continuous to the Paraju area in the RFVRD, an area of old trees and where we saw agouti's, a cat, a lesser anteater and several "mutuns" (big black terrestrial bird).

The 120 traps remained baited and opened as the standard procedure for 3 days. There was zero captures on the first night. On the second night we caught a small Rhipidomys on an







Faz. Sta. Teuzinha, Linhares - ES

arboreal Sherman trap, 2 Nectomys in Tomahawks and a baby Oryzomys (probably). On the 3rd and last night, we caught a Marmosops, a black male Didelphis and a Nectomys.

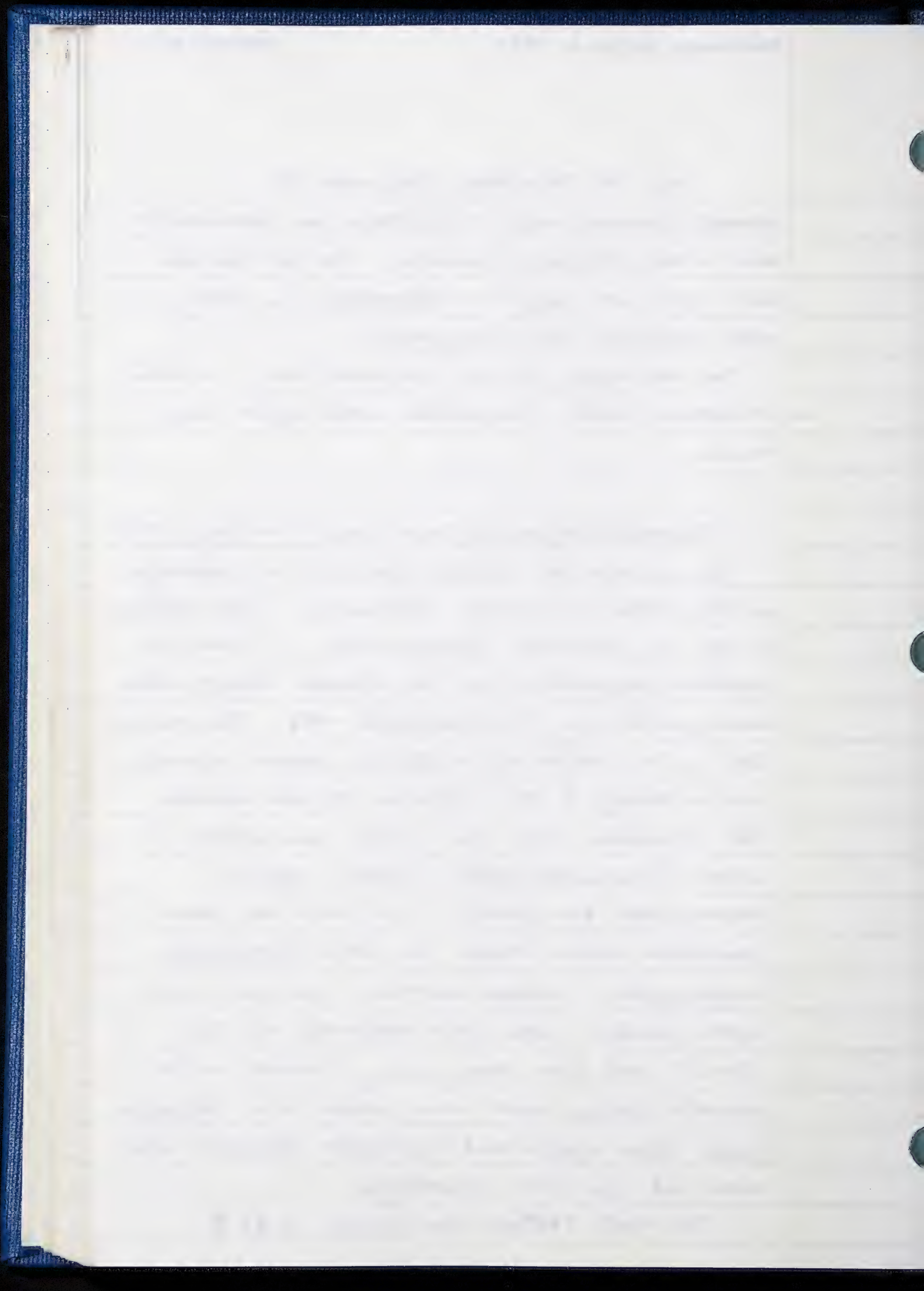
The low trapping success surprised me. In such an exuberant forest, I expected much higher trap success.

Estação Biológica de Caratinga, Caratinga - MG

We arrived at Estação Biológica de Caratinga on the 16th of October, Saturday. The station is run by Fundação Biodiversitas, a Brazilian research foundation for the Atlantic Forest, with headquarters in Belo Horizonte - MG. The station lies in the center of a 890-ha forest reserve, which belongs to Mr. Feliciano Miguel Abdalla. Mr. Abdalla owns the coffee and cattle farm (Fazenda Montes Claros) which encompasses the forest. The forest has been protected since 1944. In 1974 Brachyteles arachnoides (mono-carvoeiro, muriqui, woolly spider monkey) was first observed in the forest and since then many studies on the primate species have been conducted. Alouatta fusca, Cebus apella and Callithrix flaviceps also occur at Est. Biol. Caratinga.

The Biol. Station can house up to 8







## Est. Biol de Caratinga - MG

researchers. There are a few resident researchers at present, collecting data for a study of the marmoset's diet. Visiting researchers pay US \$ 5.00 per day per person for lodging, including all meals. The place is worth visiting, the monkeys are quite tame and therefore easy to observe, because they have been studied for many years.

We set up traps as our standard procedure. Jairo Vieira Gomes, the caretaker of the station, showed us around the area. On the first night we caught 7 Marmosops! 5 males, all with adult "scapular" pelage, and 2 females also with adult "short" pelage and visible mammae. We also caught Proechimys and a couple of Didelphis (females w/ young in the pouch, quite developed, tails visible from the outside). On the second night a Nasua coati-mundi, probably, messed up all our traps! Since we had already enough individuals of Marmosops we ~~let go~~ decided to take out the traps. Trapping effort was then of just 2 nights ( $120 \times 2 = 240$  trapnights), significantly affected by the Nasua attack. On the 2nd night we also caught 2 teius (lizard, terrestrial Tropidurus) and a bird (Xiphocolaptes albicollis, white-throated







Parque Estadual de Ibitipoca - MG  
(woodcreeper) in Tomahawk traps.

Parque Estadual de Ibitipoca - MG

The park is located on the western slopes of the Serra da Mantiqueira on the Serra do Ibitipoca, at 1050m to 1784m altitude. The scarpment divides the river basins of the Rio ~~do Prata~~<sup>Grande</sup> and Rio Paraíba do Sul.

SE corner of state of Minas Gerais.

It is 1488 ha in area, in the municipio of Lima Duarte, 3km away from Vila de Conceição do Ibitipoca. The park was created in 1973 and is one of the few parks in the state which fundiary situation has been totally legalized (= the land bought from its original owners). It includes many caves, including the largest quartzite cave in the whole S. America. Many tourists come to hike around the park during weekends and holidays. Its camping area can support 500 people. Vegetation comprises 'campos de altitude' and montane forest (w/ 1 area of 140 ha). Epiphytes (orchids, bromeliads, ferns) are very common in the park. The rainy season goes from November to March, the dry







Fazenda Sta. Carlota - SP

season from June to September. Annual precipitation amounts to 1400mm.

We arrived at the park on Wednesday. the 27 of October. Maria Rita de Cassia Amâncio, one of the 2 managers of the park, set us up at the researchers' house.

We set up 120 traps in the 140ha forest. After 3 nights of trapping we caught only Philander and Akodon. The weather was hot and sunny during the day. The nights were misty or clear. the temperature cooling down significantly. \*

Fazenda Santa Carlota - SP

Fazenda Santa Carlota, in the Município de Cajuru, approximately 50km east of the city of Ribeirão Preto, serves as field station for researchers/students at Univ. of São Paulo campus of Ribeirão Preto. Since 1983 some professors at the dep. of Zoology and the owners of the farm have had an agreement that protects the remaining native vegetation (40% of the total of 2600 alqueires, divided in many small plots), and allows for research at the farm -

The farm nowadays is dedicated for sugar-plant culture (we could observe many fully

\* We observed a group of howler monkeys in the forest and many times heard the callibus.







Fazenda <sup>Sta.</sup> Caulota - SP

loaded trucks passing by our house - "Santana" - many times a day). The agreement expired a year ago and since the original owner died and farm is being split into its many heirs it is not known if it will ever be renovated. Geographic position of the farm is from  $21^{\circ}20'$  to  $21^{\circ}27'S$  and from  $47^{\circ}18'$  to  $47^{\circ}14'W$ .

It goes from 600 to 900 m in altitude.

The rivers Cubatão and Pardo transverse the farm. Vegetation is semi-deciduous tropical forest. The farm belongs to the family Sampaio-Moreira.

We arrived on the 3rd of November and left on the 7th. Traps were set up in the forest plot named Taiba, w/ approximately 100 ha in area and going along the river.

From 120 traps baited for 3 consecutive nights we caught only 1 individual of Didelphis aurita, which was released. Traps were messed with, very probably by Cebus monkeys, which we could observe in the forest. Toni and Rachel met a rattle snake on the trail, it was sleeping and didn't seem to be bothered by them.

Fazenda Capricórnio - SP

We squeezed in a few days in Fazenda Capricórnio so that Albert could collect bats







### Serra do Japi - SP

and I could try again to trap Marmosops. We went there on the 13th and left on the 15th. We only set up 40 Tomahawk traps. Bait was banana and goiabada. The forest now, going into the rainy season, looks much greener and more luxuriant than in July - August. Creeks have more water running. 2 individuals of Proechimys were captured and later released. 2 Tomahawk traps disappeared on the trail. All other traps were fine, bait was untouched through the 2 nights. Temperature went from 35°C during the day to 15°C at night.

### Serra do Japi - SP

Serra do Japi is a scarpment near the city of Jundiaí. Jundiaí is at 760 m. The scarpment goes to 1200 m high. Forest is semi-deciduous tropical forest. The whole scarpment is protected, still it is not a biological reserve. Private properties are regulated and forest cannot be cut down. UNicamp and the administration of the city of Jundiaí have established an environmental education / research base at 900 m.

In the 3 nights of trapping (only Tomahawks were used) 2 Phyllorhiza (1 pregnant female







E. B. Boracéia

was released) and 1 Nectomys were caught in the area called "Paraíso".

E. B. Boracéia

I went back to Boracéia to try to capture Marmosops and so that Albert could mistnet bats. Jim Patton has just joined the group. Now it is Albert D. Ditchfield, Antonia Grogg, Rachel Freigberg, myself and Jim Patton.

From now on we are not setting up Sherman traps on trees. We <sup>there</sup> are increasing our lines to 40 stations w/ 20 stations w/ 1 Tomahawk and 1 Sherman and the remaining 20 stations w/ only 1 sherman on the ground. Tree shermans have had very low success so far on this trip and therefore we increase the effort (covering a larger area) to trap Marmosops.

Bait was banana, goiabada and mortadela. The 1st day was raining but the following days were sunny and hot. Traps were set up on the trail to Cachoeira do Pilão do Xá and on the Rio Preto area.

We caught many Delomys, Onychomys and Akodon (2 species) and 1 Proechimys.

24 indivs. from 120 x 2 trapnights amounts to







M.A. Mustrangi

BRAZIL

1994

Journal

Fazenda Intervalos, Capão Bonito - SP

Estação Biológica de Boracéia - SP

Fazenda São José da Serra, Sumidouro - RJ







Fazenda Intervalos (base do Carmo)

10% trapping success.

Intervalos (Base do Carmo) - 1994 July 12

Jim, Carol and I arrived here in Carmo around 5 pm, after around 4-5 hours of driving from SPaulo. This is the 1st site, out of 3, for this winter '94 season. The 3 sites (Intervalos and Boracéia for sure, Teresópolis probably) are places of sympatry for the 2 species of Marmosops. I've been in Carmo in 1992 - winter and then I trapped 1 individual of the Northern and several individuals of the southern species.

Liège Petroni, doing a PhD with Brachyteles, Maurício Simonetti, photographer, and his assistant <sup>Claudio Gáio</sup> were here in Carmo spending a couple of days to photograph the muriqui (woolly spider monkey) and plants. Luís a monitor from Intervalos, is with them. Jair, who worked w/ me here in 1992 came with us.

We went for a walk along the road and later set up 10 traps, Tomahawks. 5 along the Carmo Acima trail and 5 just outside the kitchen and till the river do Carmo, which runs near the house. If the thermometer outside is correct,







Intervalles (Base do Caimo)

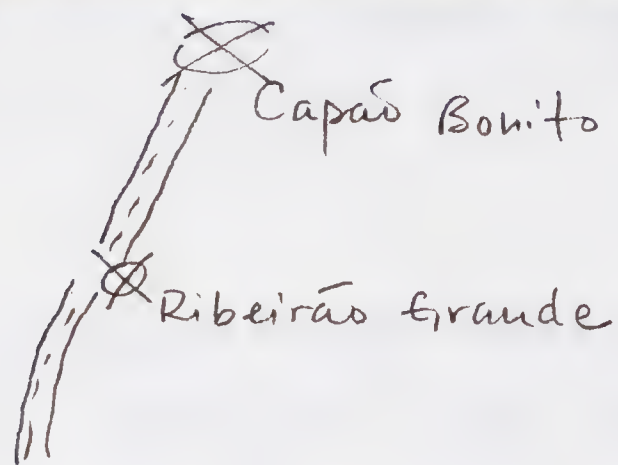
last night it was 13°C minimum. Last night we checked the traps at around 10 o'clock and got a Philander ♂ in a trap near the river (on the margin rocks). This morning we found a small (young?) Nectomys in the trap just outside the kitchen.

July 13 Jim and Carol set up 20 Tomahawks and 33 Shermans along the Caimo Acima trail, one third up on <sup>tree</sup> branches and bamboos. Jair and I set up 29 Tomahawks and 29 Shermans, actually, minus 2 Tom and 5 Sher for which we had no more bait, along the Figueira trail. We all used banana, manioc and peanut butter as bait. Jair and I set up half the traps up on the trees (at 2m from the ground, more or less) and the rest on the traps on the ground. We photographed the Philander and Nectomys with Maurício, on a set up w/ leaves and rocks inside the house. I went to watch the soccer game w/ Maurício and Cláudio and Liège at the reserve's headquarter at night: 1 x 0 Brazil and Sweden.

July 14

Jair and I set up the remaining 20 new long Shermans at the end of the Figueira trail trapline. yesterday we set up 10 + 10





Intervale,  
headquarters + main entrance to reserve  
alt. : 900m





Fazenda Intervalos (base do Carmo)

rat snaptraps (Victor) and new, long Sherman traps along a short trail along the Lajiado river, which flows to the Carmo river, near the house. Jim + Carol set up 10 long Shermans plus 38 rat traps, in 3 places off the road. ~~Today~~ We added ground left over of meat w/ bacon in some traps as bait.

We caught 1 Delomys in long Sherman in trilha rio Lajiado. 1 Sciurus in Tomahawk on bamboo crossing the trail and 3 Akodon in trilha Figueira. Jim and Carol caught 3 Marmosops, all up in the trees<sup>(=bamboos)</sup>; 2 Oxymycterus, many Akodon, couple Oryzomys and Oligoryzomys and another Nectomys. We all caught a few Chamaeza (probably) in Tomahawk on the ground. 1 Oxymycterus and 1 Oligoryzomys scaped from cloth bags.

July 15

1 Oxymycterus in Tomahawk in grassy area in front of the house. 1 more Delomys in trilha along rio Lajiado. 1 Oryzomys, many Akodon, 1 Marmosops in trilha Figueira.

Jim and Carol caught many more animals, totalling 35 specimens today. As, yesterday, we Karyotyped representative individuals for several taxa of rodents.

July 16







## Fazenda Intervalos (Base do Caimo)

We caught nothing on trapline along rio Lajeado, in new, long Shermans and Victor snaptraps. On trilha da Figueira we caught 2 Akodon (+1 that escaped), 3 Oryzomys (1 of which escaped), 2 Marmosops, 1 Oligoryzomys and another probable Chamaeza. We keep seeing fresh mountain lion and tapir tracks on the trail.

Summing up w/ Jim and Carol's captures we did 28 specimens today. No karyotyping. We wanted to finish earlier (than 11:00 pm) today. We were all quite tired. Days have been quite nice, sunny, blue sky. Temperatures around 10°C at night, 25°C during the day. Moon is crescent. No rains so far. Bait has kept well in traps, bananas still look fresh after four days.

July 17

Sunday: today is the world soccer cup final: Brazil and Italy. Animals were low in traps: total of 15 individuals today. No karyotyping. Because we don't have enough cryogenic tubes, we started today to take tissue <sup>for</sup> ~~of~~ only frozen samples, of all indivs. collected.

July 18

We released 3 Akodon on Figueira trail. Not counting these, we did 23 specimens. Jim and I karyotyped 2 Oryzomys and 2 Oxymycterus.







## Fazenda Intervalos (base do Carmo)

Another Marmosops along a bamboo. Nectomys near the house. Oxymycterus seems to be commoner in grassy fields than in the forest. We are catching animals w/ different pelages (maybe 2 different species?). We are catching adults and young individuals of Oxymycterus and Orzomys (at least for these there is clear distinction between individual body size).

Trapping success has been declining. Jim has been changing some traps to new places, further down along the trail. O. ratticeps was caught on bamboo, approx. 1.5m from ground.

19 July 1994.

We released around 5 Akodon (not nigrita) on Figueira trail. We brought two Akodon back, one I think is a nigrita, the other a young individual of the larger species. Caught nothing on trail along Rio Lajeado again.

1 Delomys near the house, 1 more Oxymycterus in grassy area in front of the house.

Today we caught 1 Micoureus and 1 Gracilinanus on bamboo in Figueira trail.

Jim caught a ♀ Monodelphis, very small and with 3 dark stripes. Marmosops

shows salmon. pinkish colour on ventral hairs, probably a fugitive colour.







Fazenda Intervalles (base do Carmo)

We karyotyped 2 Akodon and 2 Delomys. Luis, monitor from Intervalles, Nani manager of the lodging in Intervalles, came to visit and brought people to clean up the house! Luis stayed overnight and was a nice break from our same 4 people routine. Nani is new at Intervalles, is very friendly and was totally helpful, asking if we needed anything.

20 July 1994

Luis stayed with us and this morning walked up the trail to check traps. Trapping success is really going down. Today we caught 7 animals, plus 6 Akodon we released on Figuiera trail. I karyotyped 1 Orzomys and 1 Delomys. Overall trapping success was

Days were sunny and warm till one day before last, when a new cold spell brought some rain. Trapping success went down from 30 animals per day to less than 20, out of 190 traps. Snaptraps seem to have a higher success. We stopped using the ground meat + bacon as bait because it was going bad and didn't seem to be attracting animals that much.







## E. B. Boracéia

Estação Biológica de Boracéia

27 July 1994

Jim, Carol, Gustavo Accacio and I arrived here yesterday. The reserve is 1 hour (highway) + 1 hour (dirt road) away from São Paulo. We set up all live traps: 60 small Shermans, 59 Tomahawks, 40 large Shermans. Jim + Carol also set up 24 snaptraps. Seu Firmino, the caretaker helped us choosing places and setting up traps. Jim + Carol set up traps on trilha dos Pilões, downhill, in front of the researchers' house, and on the crest trail (along the crest of the scarpment), which runs behind the house. Gustavo and I walked up the road and set up traps along the trail that takes to Poco Verde and also in several places along the road, as short transects (5 stations) into the forest.

Weather is really nice, sunny, blue sky, not hot though. It's chilly at night. I have been here twice or three times and have never seen a non-foggy Boracéia







## E. B. Boracéia

like this before. Jim + Carol caught 22 animals, Gustavo and I caught 4. I caught a Northern group Marmosops!, in a grove on the side of the road, in a long Sherman tied on a fallen tree, not more than 0.5m from the ground. Bait here is banana, goiabada (= guava preserve) and peanut butter, sometimes some raisins. Today we caught many species, including: Didelphis marsupialis, Marmosops incanus, Akodon, Delomys dorsalis and sublineatus, Oryzomys, Oxymycterus and Proechimys. Jim catalogued today.

The forest seems dryer than I've seen before. I wonder what are <sup>the effects of</sup> how strong the cold here is. (or the dry season). We caught Delomys and Proechimys females with embryos. Jim and I are alternating cataloguing animals. Liver and kidney tissue samples are being saved for all animals, only in liquid nitrogen. We are Karyotyping rodents.

29 July

Léo (Leonora Costa) and Yuri Leite arrived today to spend Jim's last two







## E. B. Boracéia

days here in Boracéia, and in Brazil. Trapping success has been going down. First day we caught a total of 26 individuals; second day 14, today 13. Yesterday Jim added 22 snaptraps, so for today we had 205 traps.

Today, no Marmosops. We caught 1 male and 1 female, both from the Northern group (they have white feet, large ears, no buffy sides). Both on a fallen log (one a bamboo), not much more than 0.5m off the ground. Both are small in size, the male had blueish testis<sup>(=maturity?)</sup>. Gustavo took pictures of both. Today Gustavo took pictures of Akodon nigrita.

So far we have karyotyped Proechimys, Oryzomys, Akodon, A. nigrita, Nectomys, a couple of individuals of each.

## 4 August

We left on Sunday, July 31st, straight to the airport to put Jim + Carol on the plane. We removed the bait and closed all <sup>live</sup> traps. Jim removed the 46 rat traps and took those with him back to Berkeley. Gustavo, myself and Alexandre Peracullo, M.Sc. student at USP working with systematics of Oryzomys in







## E. B. Boracéia

eastern Brazil, came back to Boracéia on Tuesday, 2 August and reset traps. We moved some traps around so that now we have 3 traplines:

49 traps along trilha dos Pilões, 5 traps on road between house and lab, 54 traps on trail that runs along the ridge, behind the house, and 51 traps along the road (5 sets of 5 traps going down into forest groves); traps along trail to Poço Verde; and traps in swampish area called "Poço Preto", around the "Torre" (=tower). Yesterday

our first trapnight we caught 12 animals in 100 traps (we could not set up all traps in one day). 2 Marmosops, one of them the first caught on the ground and in a Tomahawk. 2 Gracilinanus, 1

Phyllander, many Delomys (1 a D. sublineatus), 1 Akodon (from the marshy area) and 1 Onychomys.

Yesterday it rained, since early morning, it is another cold wave coming from the south. The temperature dropped (it was 6°C during the night). With the mist, it is amazing how many more kinds of moths we attract with the lights from the house.







E. B. Boracéia

Gustavo photographed Gracilinanus and Philander.

6 August

The cold spell has stationed here, bringing with it lots of rain. It is cold and rains both during the night and during the day. The sun comes out every now and then but the clouds are not gone for very long. The forest which looked quite dry last week (all days of sunshine) is wet again. Some mice, specially Delomys, which happens to be the most abundant, show up dead in the traps in the morning. Yesterday, after it rained a lot at night, and was very cold ( $5^{\circ}\text{C}$ ), we caught 31 animals in 159 traps! 2 more Rhipidomys, which were also Kayotyped! Alexandre, who reset the traps along trilha dos Pilões, caught 1 ♀ Mammosops, but so far all the other individuals (all Northern species) were caught on trapline along the road. Today I found a Delomys in a Tomahawk, half eaten (posterior half). It had been pulled out of the trap through the mesh, only the head that wouldn't come through it.

Sítio São José da Serra - RJ







## Sítio São José da Serra - RJ

14 August

We left Boracéia on 7 August. I took 1 male and 2 female Marmosops Northern species to Marta Svartman at USP for her karyological studies. It still rains in and out. So we never caught Marmosops Southern species in Boracéia, despite catching several individuals of the N species. All of them were caught in forest groves. We caught none on trapline along the crest of the scarpment (trail that runs behind the house). This trip was a pretty successful mammal expedition.

We spotted an otter (by the "torre" = tower), saw Cebus crossing the trail ahead of us (5:30 pm, on trail along scarpment ridge), and drove behind a tapir on the road at night. Not to mention of course the many Marmosops and a few Gracilinanus and Rhipidomys and Oxymycterus, the latter unfortunately all in snaptraps, therefore dead and not prone for chromosome preparation.

On my previous 2 trips to Boracéia I had never caught any mouse opossum.

Today we are already at the farm in Serra dos Órgãos, an arm of the







## Sítio São José da Serra

Serra do Mar in the State of Rio, near the old city of Teresópolis. The farm belongs to Maíra Lara's parents (Sen José and Dona Raimunda). It is 106 ha in area, 40% of which is forest. The forest ~~is~~ is not pristine, but has many large trees in nice areas, interspersed with areas full of vines and bamboo which reflect recent disturbance, mainly logging. The altitude is 1000m. Frost has burnt plants around here. The weather these days has been fine, cold and sunny. Today we had a little mist early in the morning.

We set up 40 Tomahawks and 40 large Shermans in the forest, cutting a trail splitting at the end, one side going up till the top of the hill, the other going down through a nice area of forest, with sparse understory and large trees. Bait is banana and goiabada or peanut butter. We are setting up traps on the trees whenever possible. We'll stay here for a week.

16 August

Yesterday we set up more 40 traps: 20 Tomahawks and 20 small (MNFs series) Shermans, continuing the trapline, through the area of nice forest.







## Fazenda São José da Serra

Yesterday we caught only 1 Mus musculus and 1 Akodon! The Akodon in the first trapline going towards a marshy area. The Mus at the beginning of our trapline, in the 2<sup>ary</sup> forest full of bamboo. Also, a Chamaera (bird).

Today we caught 6 animals: 1 Akodon in the same marshy area; 1 Akodon nigrita 1 Marmosops, 2 Delomys sublineatus in the beginning of the trapline in 2<sup>ary</sup> bamboo-forest, and 1 Echymys! up near top of the hill. Marmosops and Echymys were both caught up in trees. We photographed the Marmosops, Southern species, and Akodon nigrita, and Karyotyped the A. nigrita, 1 Delomys, the Marmosops and the Echymys. The Echymys had its skin on top of the head ripped off, from hitting the trap wire mesh. Today we set up 20 more traps: small Shermans (MNFs series) on another trail in the same area of nice forest.

20 August

We finished setting up the 160 traps (60 Tomahawks, 60 small Shermans, and 40 large Shermans). We caught 1 more Marmosops, and many more Akodon nigrita. We also caught 1 Proechimys. Besides mammals, we caught also in the traps many (one day we caught 5!) birds which







## Fazenda São José da Serra

Seu José identified as "trinca-ferro". We caught also Chamaeza, 1 hawk!, and 1 "inhambu".

The Tomahawks were consistently having the bait stolen but not closing, even after I carefully worked on the trigger mechanism w/ pliers. We caught 1 Akodon while we were running through our traps. We checked the trap and it was empty, when we came back it had caught an Akodon.

The days have been fine, a few days remained cloudy allday, but in general the sun comes out and warms it up. We've been having full moon for a few days.

We've had a total of 980 trapnights along 7 nights. animals captured, totalling % trapping success.







7/15/94

## JLP's field chromosome preparation

- 1- inject colchicine 0.01 ml/g body weight inter-peritonially and leave for 1 hour
- 2- sacrifice the animal and take out the tibia and the femur and flush bone marrow into centrifuge tube w/ hypotonic KCl solution (0.075 M, 2.8g in 500 ml H<sub>2</sub>O) and let sit for 15' to 1/2 hour. + aspirate
- 3- pour solution through sieve into new centrifuge tube and centrifuge (40-50 turns in hand centrifuge)
- 4- pour off supernatant
- 5- add 1 ml or 2 of freshly made fixative (1:3 ac. acético-glacial absolute methanol) and let sit for  $\pm$  1/2 hour  
at least 15'
- 6- aspirate and centrifuge
- 7- pour off supernatant and <sup>add 1 ml fixative</sup> resuspend immediately and recentrifuge



8- repeat 3 or 4 times

after  
9- ✓ last wash, pour off supernatant  
add 4 ml fixative, resuspend and  
transfer into definitive tube.

make fresh each time  
→ 10 ml fixative / animal



**Total length.** Manipulate mammal so that it lies out straight (do not stretch it; guard against error that can result from a broken vertebral column), and measure distance from tip of nose-pad to tip of fleshy part of tail, excluding hairs that project beyond tip.



Fig. 615. Measuring total length of a small mammal. X 1.

**Length of hind foot.** With its toes out straight measure the distance from tip of longest claw to heel—in the same way that the overall length of a person's foot would be measured.

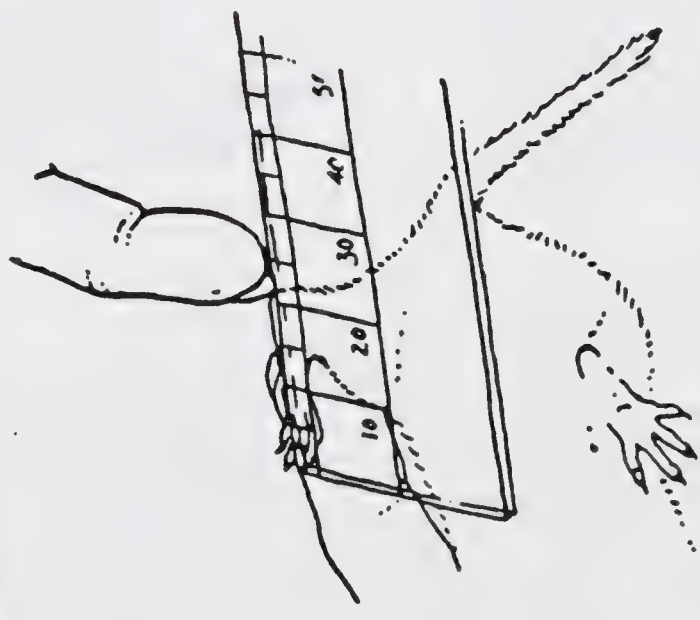


Fig. 617. Measuring length of hind foot of a small mammal by means of a transparent (plastic) rule. X 1.

**Length of tail.** Bend tail up at right-angle with body and measure from bend on back to tip of fleshy part of tail, excluding hairs that project beyond tip.

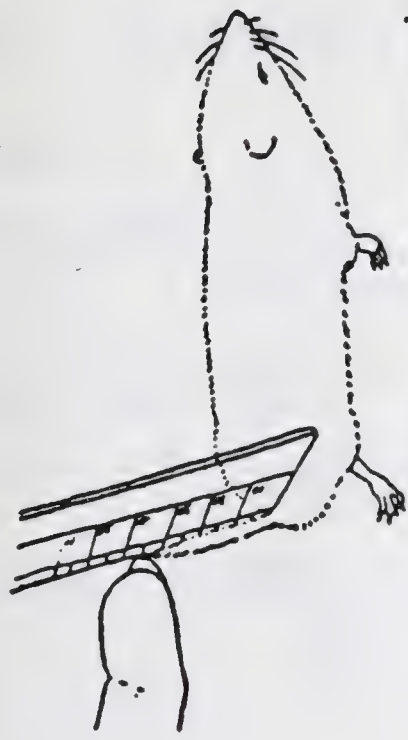


Fig. 616. Measuring length of tail of a small mammal. X 1.

**Height of ear from notch.** Insert end of rule in notch at bottom of ear and measure to distalmost border of fleshy part of ear.

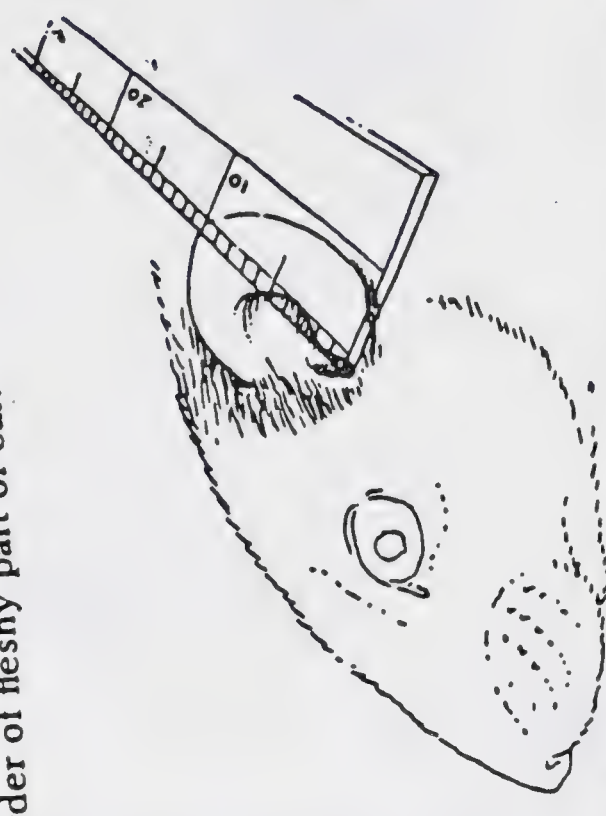


Fig. 618. Measuring height of ear from notch in a small mammal. X 14.







SPECIMEN LABELS (not natural size):

1) Skin label.--

sex reproductive data collector's field number collector's name

♂  $\pm 8$  mm scrotal SV = 12 mm 1001 J.L. Patton

Aguacani, 9 km N Limbani (by rd.),  
Depto. Puno, Peru 2850m

189-51-32-15 = 45.6 grams 1 August 1985

standardized body measurements:  
total length  
tail length  
hind foot length  
height of ear (from notch)

weight date

FRONT

leave blank for museum catalog number

University of California  
Museum of Vertebrate Zoology

REVERSE

use this space for additional information on nature of specimen, such as:  
+ body skeleton  
+ chromosomes  
+ pouch young preserved  
+ stomach contents  
etc.

this space for scientific name of specimen (to be added in pencil by curator upon proper identification)

2) Skull label.--

FRONT

JLP  
1001  
♂

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